

Packard Bell ENTK36 Series Service Guide

Service guide files and updates are available on the ACER/CSD web; for more information, please refer to <http://csd.acer.com.tw>

Revision History

Please refer to the table below for the updates made on Packard Bell ENTK36 Series service guides.

Date	Chapter	Updates

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Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.



NOTE: This symbol where placed in the Service Guide designates a component that should be recycled according to the local regulations.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Specifications

Features

Below is a brief summary of the computer's many features:

Operating System

- Windows® 7 Home Premium 64-bit
- Windows® 7 Home Basic 64-bit

Platform

- Intel® Celeron® processor T3500 (1 MB L2 cache, 2.10 GHz, 800 MHz FSB, 35 W), supporting Intel® 64 architecture
- Intel® Celeron® processor 900 (1 MB L2 cache, 2.20 GHz, 800 MHz FSB, 35 W), supporting Intel® 64 architecture
- Mobile Intel® GL40 Express Chipset

System Memory

- Dual-channel DDR3 SDRAM support:
 - Up to 2 GB of DDR3 system memory, upgradable to 4 GB using two soDIMM modules

Display

- 15.6" HD 1366 x 768 pixel resolution, high-brightness (200-nit) Gateway Ultrabright™ TFT LCD, supporting simultaneous multi-window viewing
- Mercury free, environment friendly
- 16:9 aspect ratio

Graphics

- Mobile Intel® GL40 Express Chipset with integrated 3D graphics, featuring Intel® Graphics Media Accelerator 4500M (Intel® GMA 4500M) with up to 1759 MB of Intel® Dynamic Video Memory Technology 5.0 (64 MB of dedicated system memory, up to 1695 MB of shared system memory), supporting Microsoft® DirectX® 10
- Dual independent display support
- 16.7 million colors
- External resolution / refresh rate:
 - VGA port up to 2048 x 1536: 60 Hz
 - HDMI™ port up to 1728 x 1080: 60 Hz
- MPEG-2/DVD decoding
- WMV9 (VC-1) and H.264 (AVC) decoding
- HDMI™ (High-Definition Multimedia Interface) with HDCP (High-bandwidth Digital Content Protection) support

Storage

- Hard disk drive

-
- 160/250/320/500/640 GB or larger hard disk drive
 - 2-in-1 card reader, supporting:
 - Secure Digital™ (SD) Card, MultiMediaCard™ (MMC)

Audio

- One built-in mono speaker
- MS-Sound compatible
- Built-in microphone

Optical Media Drive

- 8X DVD-Super Multi double-layer drive:
 - Read: 24X CD-ROM, 24X CD-R, 24X CD-RW, 8X DVD-ROM, 8X DVD-R, 8X DVD+R, 6X DVD-ROM DL, 6X DVD-R DL, 6X DVD+R DL, 6X DVD-RW, 6X DVD+RW, 5X DVD-RAM
 - Write: 24X CD-R, 16X CD-RW, 8X DVD-R, 8X DVD+R, 4X DVD-R DL, 4X DVD+R DL, 6X DVD-RW, 8X DVD+RW, 5X DVD-RAM

Dimensions and Weight

- Dimensions
 - 381 (W) x 253 (D) x 25/34 (H) mm (15 x 9.9 x 0.98/1.3 inches)
- Weight
 - 2.6 kg (5.74 lbs.) with 6-cell battery pack

Communication

- Video conferencing solution, featuring:
 - Webcam with 1280 x 1024 resolution
 - Microphone
- WLAN:
 - 802.11b/g/n Wi-Fi CERTIFIED™
 - 802.11b/g Wi-Fi CERTIFIED™
- WPAN:
 - Bluetooth® 3.0+HS
 - Bluetooth® 2.1+EDR
- LAN:
 - Gigabit Ethernet, Wake-on-LAN ready

Privacy Control

- BIOS user, supervisor, HDD passwords
- Kensington lock slot

Power Subsystem

ACPI 3.0 CPU power management standard: supports Standby and Hibernation power-saving modes

Power adapter

- 3-pin 65 W AC adapter:
 - 108 (W) x 46 (D) x 29.5 (H) mm (4.25 x 1.81 x 1.16 inches)
 - 225 g (0.49 lbs.) with 180 cm DC cable

Battery

- 48.8 Wh 4400 mAh 6-cell Li-ion battery pack
 - Battery life: 3.5 hours
- 41.4 Wh 2800 mAh 4-cell Li-ion battery pack
 - Battery life: 3 hours
- ENERGY STAR®

Special Keys and Controls

- Keyboard
 - 103-/104-/107-key Packard Bell FineTip keyboard with independent standard numeric keypad, international language support
- Touchpad
 - Multi-gesture touchpad, supporting two-finger scroll, pinch, rotate, flip
- Media keys
 - Media control keys (printed on keyboard): play/pause, stop, previous, next
 - Dedicated volume up, volume down, mute keys
- Control keys
 - Packard Bell Social Networks key
 - Packard Bell MyBackup key (Fn+F1)
 - Communication key (Fn + F2)

I/O interface

- 2-in-1 card reader (SD™, MMC)
- Three USB 2.0 ports
- HDMI™ port with HDCP support
- External display (VGA) port
- Headphone/speaker/line-out jack
- Microphone-in jack
- Ethernet (RJ-45) port
- DC-in jack for AC adapter

Software

- Productivity
 - Packard Bell MyBackup Solution
 - Packard Bell Power Management
 - Packard Bell Recovery Management
 - Packard Bell Social Networks
 - Adobe® Flash® Player 10.1
 - Adobe® Reader® 9.1
 - Google Toolbar™
 - Microsoft® Office 2010 preloaded (purchase a product key to activate)
 - Microsoft® Office Starter 2010
- Security
 - Norton Internet Security™ 2011
- Multimedia
 - Adobe® Photoshop® Elements 8
 - Cyberlink® PowerDVD™
 - Nero® 9 Essentials
- Gaming
 - WildTangent® Packard Bell Edition (except China, Japan, Hong Kong, Korea)
- Communication and ISP
 - Microsoft® Silverlight™
 - Skype™
 - Windows Live™ Essentials - Wave 3.2 (Mail, Photo Gallery, Live™ Messenger, Movie Maker, Writer)
- Web links and utilities
 - Packard Bell Accessory Store (Canada, France, Germany, Italy, Mexico, Spain, UK, US only)
 - Packard Bell Identity Card
 - Packard Bell InfoCentre
 - Packard Bell Registration
 - Packard Bell Updater
 - eBay® shortcut 2009 (Belgium, France, Germany, Italy, Netherlands, Spain, Sweden, UK only)

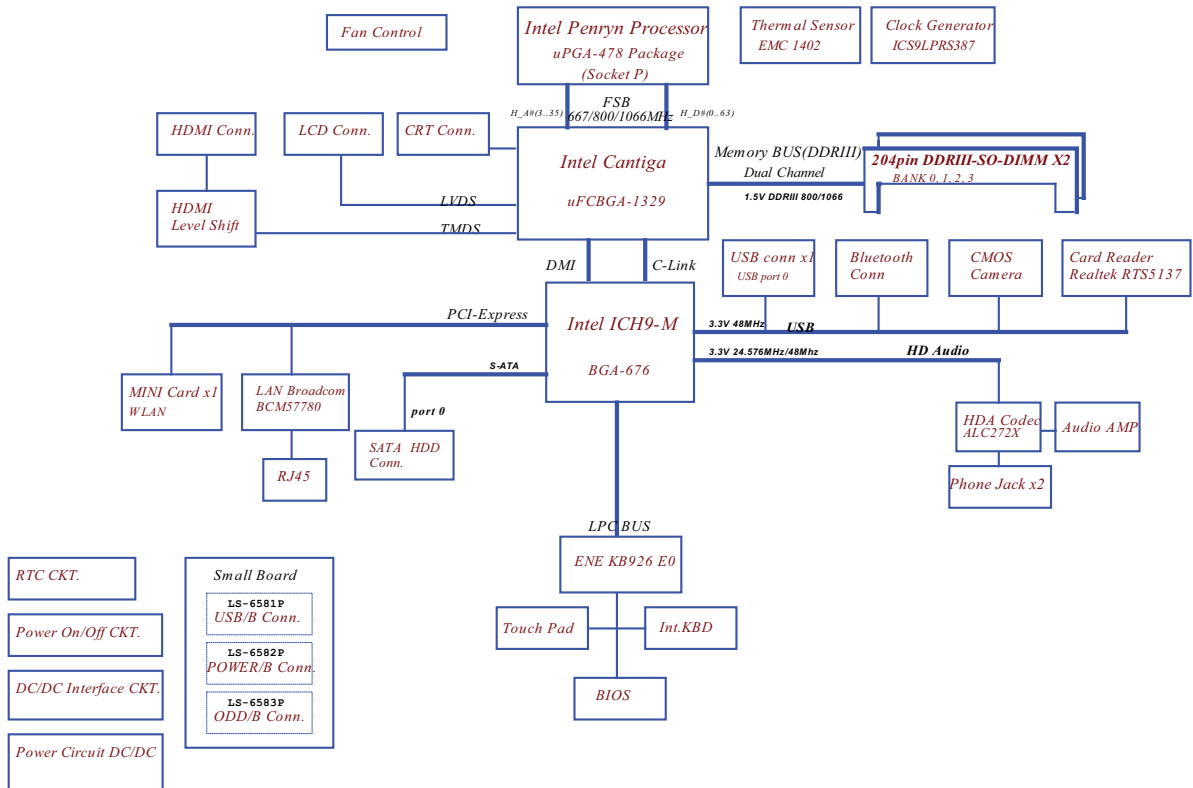
Optional Items

- 1 GB / 2 GB DDR3 soDIMM module
- 4400 mAh 6-cell Li-ion battery pack
- 3-pin 65 W AC adapter

Environment

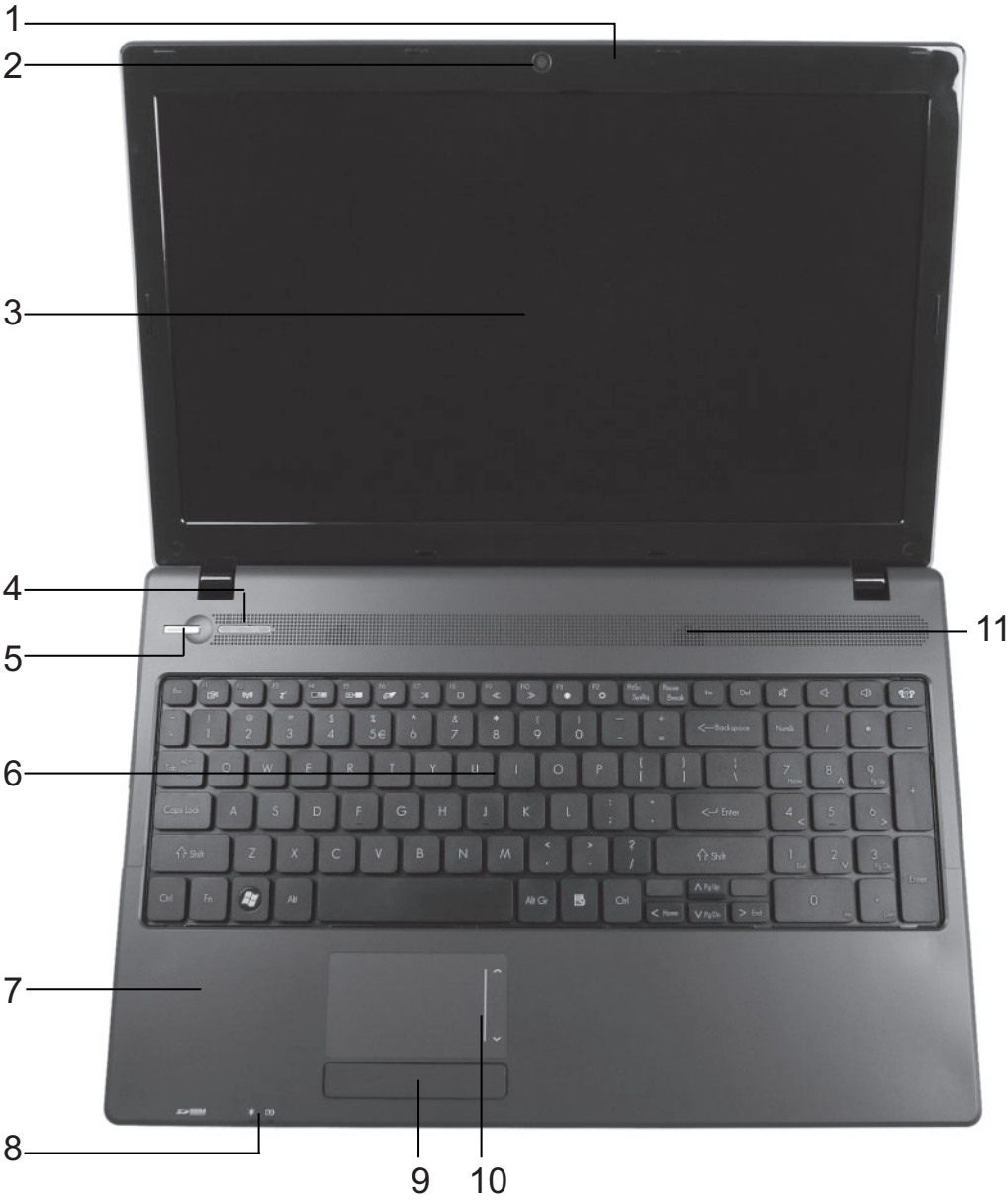
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System Block Diagram








Your Packard Bell Notebook tour

Front View




No.	Icon	Item	Description
1		Microphone	Internal microphone for recording sound.
2		Webcam	Web camera for video communication (for selected models).
3		Display screen	Also called Liquid-Crystal Display (LCD), displays computer output.

No.	Icon	Item	Description
4		HDD	Indicates when the hard disk drive is active.
		Communication indicator	Indicates the computer's wireless connectivity device status.
5		Power button	Turns the computer on and off.
6		Keyboard	For entering data into your computer.
7		Palmrest	Comfortable support area for your hands when you use the computer.
8		Power ¹	Indicates the computer's power status.
		Battery ¹	Indicates the computer's battery status. 1. Charging: The light shows amber when the battery is charging. 2. Fully charged: The light shows blue when in AC mode.
9		Click buttons (left and right)	The left and right buttons function like the left and right mouse buttons.
10		TouchPad	Touch-sensitive pointing device which functions like a computer mouse.
11		Speakers	Left and right speakers deliver stereo audio output.

NOTE: ¹ The front panel indicators are visible even when the computer cover is closed.

Closed Front View



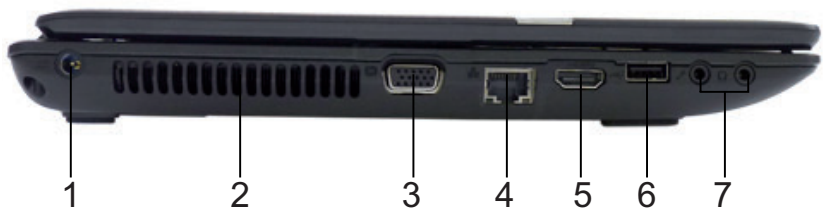
No.	Icon	Item	Description
1		Multi-in-1 card reader	Accepts Secure Digital (SD), MultiMediaCard (MMC) Push to remove/install the card. Only one card can operate at any given time.

Left View



No.	Icon	Item	Description
1		DC-in jack	Connects to an AC adapter
2		Ventilation slots	Enable the computer to stay cool, even after prolonged use.
3		External display (VGA) port	Connects to a display device (e.g. external monitor, LCD projector).
4		Ethernet (RJ-45) port	Connects to an Ethernet 10/100-based network.
5		HDMI	Connect to HDMI devices
6		USB 2.0 ports	Connect to USB 2.0 devices (e.g. USB mouse, USB camera).
7		Microphone-in jack	Accepts input from external microphones.
		Headphones/ speaker/line-out jack	Connects to audio line-out devices (e.g. speakers, headphones).





Right View



No.	Item	Description
1		Connect to USB 2.0 devices (e.g. USB mouse, USB camera).
2		Internal optical drive; accepts CDs or DVDs.
3		Lights up when the optical drive is active.
4		Ejects the optical disk from the drive.
5		Ejects the optical drive tray when the computer is turned off. Note: Insert a paper clip into the emergency eject hole to eject the optical drive tray when the computer is off.
6		Connects to a Kensington-compatible computer security lock. Note: Wrap the computer security lock cable around an immovable object such as a table or handle of a locked drawer. Insert the lock into the notch and turn the key to secure the lock. Some keyless models are also available.





Bottom View



No.	Icon	Item	Description
1		Battery bay	Houses the computer's battery pack.
2		Battery release latch	Releases the battery for removal.
3		Hard disk bay	Houses the computer's hard disk (secured with screws).
4		Memory compartment	Houses the computer's main memory.
5		Battery lock	Locks the battery in position.
6		Ventilation slots and cooling fan	Enable the computer to stay cool, even after prolonged use. Note: Do not cover or obstruct the fan opening.

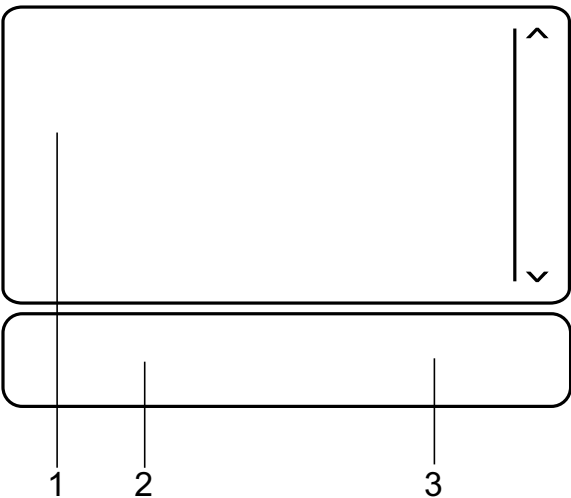
Indicators

The computer has several easy-to-read status indicators. The front panel indicators are visible even when the computer cover is closed.

Icon	Function	Description
	Power	Indicates the computer's power status.
	Battery	Indicates the computer's battery status. NOTE: 1. Charging: The light shows amber when the battery is charging. 2. Fully charged: The light shows green when in AC mode.
	HDD	Indicates when the hard disk drive is active.
	Communication indicator	Indicates the computer's wireless connectivity device status.

TouchPad Basics

The following items show you how to use the TouchPad:



- Move your finger across the TouchPad (1) to move the cursor.
- Press the left (2) and right (3) buttons located beneath the TouchPad to perform selection and execution functions. These two buttons are similar to the left and right buttons on a mouse. Tapping on the TouchPad is the same as clicking the left button.

Function	Left Button (2)	Right Button (3)	Main TouchPad (1)
Execute	Quickly click twice.		Tap twice (at the same speed as double-clicking a mouse button).
Select	Click once.		Tap once.
Drag	Click and hold, then use finger on the TouchPad to drag the cursor.		Tap twice (at the same speed as double-clicking a mouse button); rest your finger on the TouchPad on the second tap and drag the cursor.
Access context menu		Click once.	

NOTE: When using the TouchPad, keep it - and your fingers - dry and clean. The TouchPad is sensitive to finger movement; hence, the lighter the touch, the better the response. Tapping too hard will not increase the TouchPad's responsiveness.

Using the Keyboard

The keyboard has full-sized keys and an embedded numeric keypad, separate cursor, lock, Windows, function and special keys.

Lock Keys and embedded numeric keypad




















The keyboard has two lock keys which you can toggle on and off.



Lock key	Description
Caps Lock	When Caps Lock is on, all alphabetic characters typed are in uppercase.
Num Lock	When Num Lock is on, the embedded keypad is in numeric mode.

Windows Keys

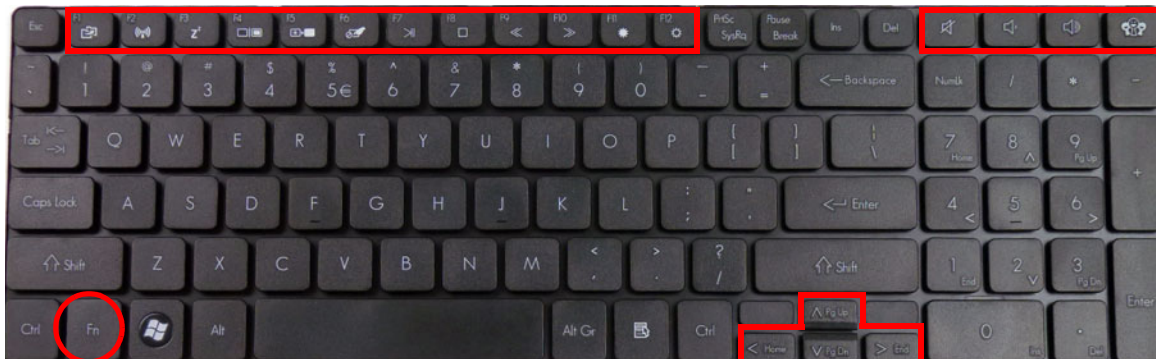
The keyboard has two keys that perform Windows-specific functions.

Key	Description
 Windows key	<p>Pressed alone, this key has the same effect as clicking on the Windows Start button; it launches the Start menu. It can also be used with other keys to provide a variety of functions:</p> <ul style="list-style-type: none"><  >: Open or close the Start menu<  > + <D>: Display the desktop<  > + <E>: Open Windows Explore<  > + <F>: Search for a file or folder<  > + <G>: Cycle through Sidebar gadgets<  > + <L>: Lock your computer (if you are connected to a network domain), or switch users (if you're not connected to a network domain)<  > + <M>: Minimizes all windows<  > + <R>: Open the Run dialog box<  > + <T>: Cycle through programs on the taskbar<  > + <U>: Open Ease of Access Center<  > + <X>: Open Windows Mobility Center<  > + <BREAK>: Display the System Properties dialog box<  > + <SHIFT+M>: Restore minimized windows to the desktop<  > + <TAB>: Cycle through programs on the taskbar by using Windows Flip 3-D<  > + <SPACEBAR>: Bring all gadgets to the front and select Windows Sidebar<CTRL> + <  > + <F>: Search for computers (if you are on a network)<CTRL> + <  > + <TAB>: Use the arrow keys to cycle through programs on the taskbar by using Windows Flip 3-D <p>Note: Depending on your edition of Windows 7, some shortcuts may not function as described.</p>
 Application key	<p>This key has the same effect as clicking the right mouse button; it opens the application's context menu.</p>

Hot Keys

The computer employs hotkeys or key combinations to access most of the computer's controls like screen brightness, volume output and the BIOS utility.

To activate hot keys, press and hold the <Fn> key before pressing the other key in the hotkey combination.



Hotkey	Icon	Function	Description
<Fn> + <F1>		Backup Management	Launches the backup application.
<Fn> + <F2>		Communication Device On/Off	Toggles WiFi, 3G and Bluetooth on and off using a pop-up window.
<Fn> + <F3>		Sleep	Puts the computer in Sleep mode.
<Fn> + <F4>		Display toggle	Switches display output between the display screen, external monitor (if connected) and both.
<Fn> + <F5>		Display off	Turns off the LCD back light.
<Fn> + <F6>		Touchpad toggle	Turns the touchpad on and off.
<Fn> + <F7>		Play/Pause	Toggles Play and Pause in multimedia applications.
<Fn> + <F8>		Stop	Stops media in multimedia applications.
<Fn> + <F9>		Reverse	Performs a reverse scan in multimedia applications.
<Fn> + <F10>		Forward	Performs a forward scan in multimedia applications.
<Fn> + <F11>		Brightness Down	Decreases the screen brightness.
<Fn> + <F12>		Brightness Up	Increases the screen brightness.
		Social Networking Key	Launches a social networking website (user configurable).
		Volume Up	Increases the sound volume.
		Volume Down	Decreases the sound volume.
		Speaker toggle	Turns the speakers on and off.

Hardware Specifications and Configurations

Processor

Item	Specification
CPU type	Intel® Pentium® and Intel® Celeron® mobile processors based on the 45-nm process
CPU package	Micro-FCPGA package
Core Logic	<ul style="list-style-type: none">Intel Montevina chipsetICH9M Intel 82801GBMOn die 512-kB, 8-way L2 cache
Chipset	<ul style="list-style-type: none">Intel® GL40 Express Chipset

Processor Specifications

Item	CPU Speed	Cores	Bus Speed	Mfg Tech	Cache Size	Package	Core Voltage	Acer PN
CM900	2.2G	2	800M Hz	45nm	1M	Micro-FCPGA	1.0V - 1.2V	KC.N0001.900
T3500	21.G	2	800M Hz	45nm	1M	Micro-FCPGA	0.8V-1.25V	KC.35001.CMT

CPU Fan True Value Table

CPU Temperature	Fan Speed (RPM)	SPL Spec (dBA)
50	2400	28
55	2500	31
60	2700	34
65	3000	37
85	3400	40

- Throttling 50%: On= 95C; OFF=80C
- OS shut down at 100C; H/W shut down at 90C

System Memory

Item	Specification
Memory controller	Built in (Intel® GL40 Express Chipset)
Memory size	512MB,1GB,2GB DDR3 RAM
DIMM socket number	2
Supports memory size per socket	2 GB
Supports maximum memory size	4 GB
Supports DIMM type	DDR III 667/800Mhz SDRAM memory interface design
Supports DIMM Speed	667/800Mhz SDRAM
Support DIMM voltage	1.5V
Supports DIMM package	DDRIII SDRAM 204pin Unbuffered SODIMM based

Memory Combinations

Slot 1	Slot 2	Total Memory
0MB	1024MB	1024MB
0MB	2048MB	2048MB
1024MB	0MB	1024MB
1024MB	1024MB	2048MB
1024MB	2048MB	3072MB
2048MB	0MB	2048MB
2048MB	1024MB	3072MB
2048MB	2048MB	4096MB

NOTE: Above table lists some system memory configurations. You may combine DIMMs with various capacities to form other combinations. In the above table, the configuration of slot 1 and slot 2 could be reversed.

BIOS

Item	Specification
BIOS vendor	InsydeH20
BIOS Version	V1.0
BIOS ROM type	Flash
BIOS ROM size	2 MB
Support protocol	Support ISIPP Support Acer UI Support multi-boot Suspend to RAM (S3)/Disk (S4) Various hot-keys for system control Support SMBUS 3.0, PCI3.0 ACPI 3.0b compliance with Intel Speed Step Support C1, C2, C3, C4 and S3, S4 for mobile CPU DMI utility for BIOS serial number configurable/asset tag Support PXE Support Y2K solution Support Win Flash Wake on LAN from S3 Wake on LAN from S4 in AC mode System information

Keyboard

Item	Specification
Type	New Acer AC7T flat keyboard
Total number of keypads	103-US/104-UK keys
Windows logo key	Yes
Internal & external keyboard work simultaneously	Yes
Features	<ul style="list-style-type: none">Phantom key auto detectOverlay numeric keypadSupport independent pgdn/pgup/pgup/home/end keysSupport reverse T cursor keysFactory configurable different languages by OEM customer

LAN Interface

Item	Specification
LAN Chipset	BCM57780
Support LAN protocol	x1 PCIe v1.1 bus interface
LAN connector type	RJ45
LAN connector location	Left side
Features	<ul style="list-style-type: none">• Integrated 10/100/1000BASE-T transceiver• Automatic MDI crossover function• PCIe v1.1 compliant• 10/100/1000BASE-T full-duplex/half-duplex MAC• Receive side scaling (RSS) for multicore processors• Complies with IEEE 802.3, 802.3u, 802.3ab, and 802.1p• Supports iSCSI boot• IPv4 and IPv6 large send offload and checksum offload (LSO/TCO)• Wake on LAN (WOL) support meeting the ACPI requirements• Statistics for SNMP MIB II, Ethernet-like MIB, and Ethernet MIB (IEEE 802.3z, Clause 30)• Self-boot feature, utilizing smaller EEPROM size with ability to use on-chip memory• PCI Express® CLKREQ support• Integrated switching regulator for improved power consumption

Wireless Module 802.11b/g/n

Item	Specification
Chipset	Atheros HB93/HB95/ HB97, BCM943225/ BCM4312, RTL 8192
Data throughput	11~54 Mbps, up to 270 Mbps for Draft-N
Protocol	802.11 b+g, Draft-N
Interface	PCI bus (mini PCI socket for wireless module)

Audio Subsystem

Item	Specification
Audio Codec	
Chipset	Realtek ALC272X
Package	48-pin LQFP 'Green' package
Speaker Amplifier	TPA6017A
Audio Port	
Internal	1 mic, 1 speaker
Compatibility	HD audio Interface
Sampling Rate	44.1k/48k/96k/192kHz
External	Mic jack Headphone jack

Hard Disk Drive Interface

Item	Specification			
Vendor & Model Name	WD WD1600BEVT-22A23T0	HITACHI HTS545016B9A300	SEAGATE ST9160314AS	TOSHIBA MK1665GSX
Capacity (GB)	160GB			
Bytes per sector	512Bytes			
Data heads	1	2	2	1
Drive Format				
Disks	1	1	1	1
Spindle speed (RPM)	5400			
Performance Specifications				
Buffer size	8 MB			
Interface	SATA			
Fast data transfer rate (Mbits/sec, max)	3.0Gbits/s			
Media data transfer rate (Mbytes/sec max)	106MBytes/s	845Mbits/s	1175Mbits/s	1273.3Mbits/s
DC Power Requirements				
Voltage tolerance	5V			

Item	Specification			
Vendor & Model Name	WD WD2500BEVT-22A23T0	HITACHI HTS545025B9A300	SEAGATE ST9250315AS	TOSHIBA MK2565GSX
Capacity (GB)	250GB			
Bytes per sector	512Bytes			
Data heads	2			
Drive Format				
Disks	1			
Spindle speed (RPM)	5400			
Performance Specifications				
Buffer size	8 MB			
Interface	SATA			
Fast data transfer rate (Mbits/sec, max)	3.0Gbits/s			
Media data transfer rate (Mbytes/sec max)	106MBytes/s	875Mbits/s	1175Mbits/s	1031.7Mbits/s
DC Power Requirements				
Voltage tolerance	5V			

Item	Specification			
Vendor & Model Name	WD WD3200BEVT-22A23T0	HITACHI HTS545032B9A300	SEAGATE ST9320315AS	TOSHIBA MK3265GSX
Capacity (GB)	320GB			
Bytes per sector	512Bytes			
Data heads	2	3	3	2
Drive Format				
Disks	1	2	2	1
Spindle speed (RPM)	5400			
Performance Specifications				
Buffer size	8 MB			
Interface	SATA			
Fast data transfer rate (Mbits/sec, max)	3.0Gbits/s			
Media data transfer rate (Mbytes/sec max)	106MBytes/s	875Mbits/s	1175Mbits/s	1273.3Mbits/s
DC Power Requirements				
Voltage tolerance	5V			

Item	Specification			
Vendor & Model Name	WD WD5000BEVT-22A0RT0	HITACHI HTS545050B9A300	SEAGATE ST9500325AS	TOSHIBA MK5065GSX
Capacity (GB)	500GB			
Bytes per sector	512Bytes			
Data heads	4			
Drive Format				
Disks	2			
Spindle speed (RPM)	5400			
Performance Specifications				
Buffer size	8 MB			
Interface	SATA			
Fast data transfer rate (Mbits/sec, max)	3.0Gbits/s			
Media data transfer rate (Mbytes/sec max)	106MBytes/s	875Mbits/s	1175Mbits/s	1031.7Mbits/s
DC Power Requirements				
Voltage tolerance	5V			

Item	Specification			
Vendor & Model Name	WD WD6400BEVT-22A0RT0	TOSHIBA MK6465GSX	WD WD7500BPVT-22HXZT1	WD WD3200BPVT-22ZEST0
Capacity (GB)	640GB		750GB	320GB
Bytes per sector	512Bytes		4096Bytes	
Data heads	4			2
Drive Format				
Disks	2			1
Spindle speed (RPM)	5400			
Performance Specifications				
Buffer size	8 MB			
Interface	SATA			
Fast data transfer rate (Mbits/sec, max)	3.0Gbits/s	3.0Gbits/s	3.0Gbits/s	3.0Gbits/s
Media data transfer rate (Mbytes/sec max)	106MBytes/s	1273.3Mbits/s	97MBytes/s	108MBytes/s
DC Power Requirements				
Voltage tolerance	5V			

Super-Multi Drive Interface

Item	Specification	
Vendor & model name	HLDS Super-Multi Drive DL 8X GT32N LF / SONY Super-Multi Drive DL 8X AD-7585H LF / TSST Super-Multi Drive DL 8X TS-L633F / Panasonic Super-Multi Drive DL 8X UJ8A0 / PLDS Super-Multi Drive DL 8X DS-8A5SH / SONY Super-Multi Drive DL 8X AD-7580S LF	
Performance Specification	With CD Diskette	With DVD Diskette
Transfer rate (KB/sec)	Sustained: Max 3.6Mbytes/sec	Sustained: Max 10.08Mbytes/sec
Buffer Memory	2MB	
Interface	SATA	
Applicable disc format	Applicable disc format CD: CD-DA, CD-ROM, CD-ROM XA, Photo CD (multi-session), Video CD, Cd-Extra (CD+), CD-text DVD: DVD-VIDEO, DVD-ROM, DVD-R (3.9GB, 4.7GB) DVD-R DL, DVD-RW, DVD-RAM, DVD+R, DVD+R DL, DVD+RW CD: CD-DA (Red Book) - Standard Audio CD & CD-TEXT CD-ROM (Yellow Book Mode1 & 2) - Standard Data CD-ROM XA (Mode2 Form1 & 2) - Photo CD, Multi-Session CD-I (Green Book, Mode2 Form1 & 2, Ready, Bridge) CD-Extra/ CD-Plus (Blue Book) - Audio & Text/Video Video-CD (White Book) - MPEG1 Video CD-R (Orange Book Part) CD-RW & HSRW (Orange Book Part Volume1 & Volume 2 Super Audio CD (SACD) Hybrid type US & US+ RW DVD: DVD-ROM (Book 1.02), DVD-Dual DVD-Video (Book 1.1) DVD-R (Book 1.0, 3.9G) DVD-R (Book 2.0, 4.7G) - General & Authoring DVD+R (Version 1.0) DVD+RW DVD-RW (Non CPRM & CPRM) DVD®R Dual	
Loading mechanism	Load: Manual Release: (a) Electrical Release (Release Button) (b) Release by ATAPI command (c) Emergency Release	
Power Requirement		
Input Voltage	5 V +/- 5% (Operating)	

LED15.6"

Item	Specification
Vendor/model name	AUO / B156XW02 V2 (HW:4A) LG / LP156WH2-TLEA CMO / N156B6-L0B BOE / HT156WXB-500 CPT / CLAA156WB11A SAMSUNG / LTN156AT02-A04
Screen Diagonal (mm)	394.91 mm
Active Area (mm)	344.23 mm x 193.54 mm
Display resolution (pixels)	1366 x 3(RGB) x 768
Pixel Pitch (mm)	0.252mm x 0.252 mm
Pixel Arrangement	R.G.B Vertical Stripe
Display Mode	Normally White
Typical White Luminance (cd/m2) also called Brightness	220 cd/m2
Contrast Ratio	500: 1
Response Time (Optical Rise Time/ Fall Time) msec	8 ms
Typical Power Consumption (watt)	5.15 W
Weight (without inverter)	460 g
Physical Size (mm)	360 mm x 210mm x 5.5 max
Electrical Interface	1 channel LVDS
Viewing Angle (degree) Horizontal (Right) CR = 10 (Left) Vertical (Upper) CR = 10 (Lower)	40 (Right) / 40 (Left) / 10 (Upper) / 30 (Lower)

CCFL 15.6"

Item	Specification
Vendor/model name	AUO / B156XW01 V2 LG / LP156WH1-TLC1 CMO / N156B3-L0B SAMSUNG / LTN156AT01-A01
Screen Diagonal (mm)	394.91 mm
Active Area (mm)	344.23 mm x 193.54 mm
Display resolution (pixels)	1366 x 3(RGB) x 768
Pixel Pitch (mm)	0.252mm x 0.252 mm
Pixel Arrangement	R.G.B Vertical Stripe
Display Mode	Normally White
Typical White Luminance (cd/m2) also called Brightness	220 cd/m2
Contrast Ratio	500: 1
Response Time (Optical Rise Time/ Fall Time) msec	8 ms
Typical Power Consumption (watt)	6.5 W
Weight (without inverter)	510
Physical Size (mm)	360 mm x 210mm x 6.2 max
Electrical Interface	1 channel LVDS
Viewing Angle (degree) Horizontal (Right) CR = 10 (Left) Vertical (Upper) CR = 10 (Lower)	40 (Right) / 40 (Left) / 10 (Upper) / 20 (Lower)

LCD Inverter (LCD Only)

Item	Specification	
Vendor & model name	DARFON VK.21071.804	YEC YNV-C01ACs
Brightness conditions	PWM signal frequency: Min:142Hz Typ:150Hz Max:158Hz PWM signal amplitude: Min:3.0V Typ:3.3V Max:3.6V Duty=Ton/Period: Min:15% Max:100%	
Input voltage (v)	Min:9V Typ:20V Max:20V	
Input current (mA)	Typ:0.33A	
Output voltage (V, RMS)	Typ:650V	
Output current (mA, RMS)	3.0mA~6.8mA(DAC=0V) 2.7mA~6.3mA(DAC=1V)	
Output voltage frequency (KHz)	Min:45KHz Typ:55KHz Max:65KHz	

VGA Display Supported Resolution

Resolution	16 bits	32 bits
800x600p/60Hz 16:9	Yes	Yes
1024x768p/60Hz 16:9	Yes	Yes
1280x600/60Hz 16:9	Yes	Yes
1280x720/60Hz 16:9	Yes	Yes
1280x768/60Hz 16:9	Yes	Yes
1360x768/60Hz 16:9	Yes	Yes
1366x768/60Hz 16:9	Yes	Yes

Camera

Item	Specification
Vendor and model	Chicony CH9665AL(CNF9155)
Type	1.3M
Interface	USB
Focusing distance	>26.6cm
Dimensions (L x W x H mm)	65.3x8.1x3.8mm
Sensor type	SOC
Pixel resolution	1280x1024
Pixel size	2 μm x 2 μm
Image size	2608 μm x 2072 μm

Battery

Item	Specification	
Vendor & model name	SANYO AS2010D31 SIMPLO AS10D71/75 SONY AS2010D41 SAMSUNG AS2010D61 PANASONIC AS10D51	PANASONIC AS10D56
Battery Type	Li-ion	Li-ion
Pack capacity	2200 mAh	3000 mAh
Number of battery cell	6	4
Package configuration	3S2P	4S1P

Video Interface

Item	Specification
Chipset	Integrated VGA solution (Intel® GL40 Express Chipset)
Package	FCBGA1329
Interface	LVDS / CRT DVI (Docking only)
Compatibility	1366x768/60Hz(16:9) / 1280x720/60Hz(16:9) / 1024x768/60Hz(4:3) / 800x600/60Hz(4:3)
Sampling rate	60Hz
Supports	<ul style="list-style-type: none">• Intel Gen 5.0 integrated graphics engine with 10 fully programmable cores• 400-MHz core render clock at 1.05-V core voltage• Supports iHDMI/DVI, LVDS, CRT• Intel® Dynamic Video Memory Technology (Intel® DVM 5.0)• Video Capture via x1 concurrent PCI Express port• PAVP (Protected Audio-Video Path) support for Protected Intel® HD Audio (Video and Audio) Playback• High performance MPEG-2 decoding• WMV9 (VC-1) and H.264 (AVC) support• Hardware acceleration for MPEG2 VLD/iDCT• Microsoft DirectX*10 support• Blu-ray* support @ 40 Mb/s• Hardware motion compensation• Intermediate Z in classic rendering

VRAM (not available in this model)

Item	Specification
Chipset	
Memory size	
Interface	

USB Port

Item	Specification
USB compliance level	USB2.0
EHCI	2
Number of USB port(s)	3
Location	1 left side, 2 right side

HDMI Port

Item	Specification
Compliance level	HDMI1.4a
Number of HDMI port(s)	1
Location	Left side

System Board Major Chips

Item	Specification
Core logic	Intel® GL40 Express Chipset
VGA	Built-in Intel® GL40 Express Chipset
LAN	BCM57780
USB 2.0	Built-in Intel® GL40 Express Chipset
Super I/O controller	N/A
Bluetooth	Broadcom 2046/2070, Atheros 3011
Wireless	Broadcom 4312/43225, Atheros HB93/HB95/HB97, Realtek 8192
PCMCIA	N/A
Audio codec	Realtek ALC272X-GR
Card reader	Realtek RTS5137-GR

I/O Ports

Item	Specification
I/O support	<ul style="list-style-type: none">• 1 x 2 in1 Card reader (SD/MMC)• 3 x USB 2.0 port• 1 x HDMI™ port support HDCP• 1 x external CRT• 1 x Headphone/• 1 x MIC• 1 x RJ-45• 1 x DC-in jack

AC Adapter

Item	Specification
Input rating	65W
Maximum input AC current	1.5A at 100V~240V
Inrush current	I2t at 264V
Efficiency	Refer to EPA 5.0

Card Reader

Item	Specification
Chipset	Realtek RTS5137-GR
Package	24 Pin QFN
Features	2-in-1 card reader, supporting: <ul style="list-style-type: none">• Secure Digital™ (SD) Card, MultiMediaCard™ (MMC)
Supports maximum size	SD version 3.0 SDXC up to 2TB with High Speed (HS) mode

Bluetooth Interface

Item	Specification
Chipset	Atheros AR3011/ Broadcom BCM2070/ Broadcom BCM2046
Data throughput	TX 1.2Mbps/sec RX 1.2Mbps/sec
Protocol	3.0+HS
Interface	USB 2.0
Connector type	SM08B-SURS-TF/JST SM06B-XSRK-ETB/SM08B-SURS-TF

System LED Indicator

Item	Specification
System state	<ul style="list-style-type: none">Blue color solid on: System onBlue color and amber color off: System offAmber color blinking: S3 state
HDD access state	Reflects the activities of the HDD or card reader access
Wireless state	Amber color if a wireless device is active
Power button backlight	<ul style="list-style-type: none">Blue color solid on: System onBlue color off: System off
Battery state	Charging <ul style="list-style-type: none">Amber solid on - Battery charging with ACBlue color solid on - Battery fullAmber blinking - Battery abnormal stop charge or batter in low power state Discharging <ul style="list-style-type: none">Amber and blinking - Battery in critical low stateAmber color off - Discharging state

Power Specification

Legacy Mode	ACPI Mode	Power Management
Off	Mech. Off (G3)	All devices in the system are turned off completely.
	Soft Off (G2/S5)	OS initiated shutdown. All devices in the system are turned off completely.
On	Working (G0/S0)	Individual devices such as the CPU and hard disk may be power managed in this state.
	S3 Sleeping State	CPU set power down VGA suspend PCMCIA suspend Audio power down Hard Disk power down CD-ROM power down Super I/O low power mode
	S4 Sleeping State	Also called Hibernation state. The system saves all system states and data onto disk prior to powering off the whole system.

System Utilities

BIOS Setup Utility

The BIOS Setup Utility is a hardware configuration program built into your computer's BIOS (Basic Input/Output System).

Your computer is already properly configured and optimized, and you do not need to run this utility. However, if you encounter configuration problems, you may need to run Setup. Please also refer to Chapter 4 Troubleshooting when problem arises.

To activate the BIOS Utility, press **F2** during POST (when "Press <F2> to enter Setup" message is prompted on the bottom of screen).

The default parameter of F12 Boot Menu is set to "disabled". If you want to change boot device without entering BIOS Setup Utility, please set the parameter to "enabled".

Press <F12> during POST to enter multi-boot menu. In this menu, user can change boot device without entering BIOS SETUP Utility.

Navigating the BIOS Utility

There are five menu options: Information, Main, Security, Boot, and Exit.

Follow these instructions:

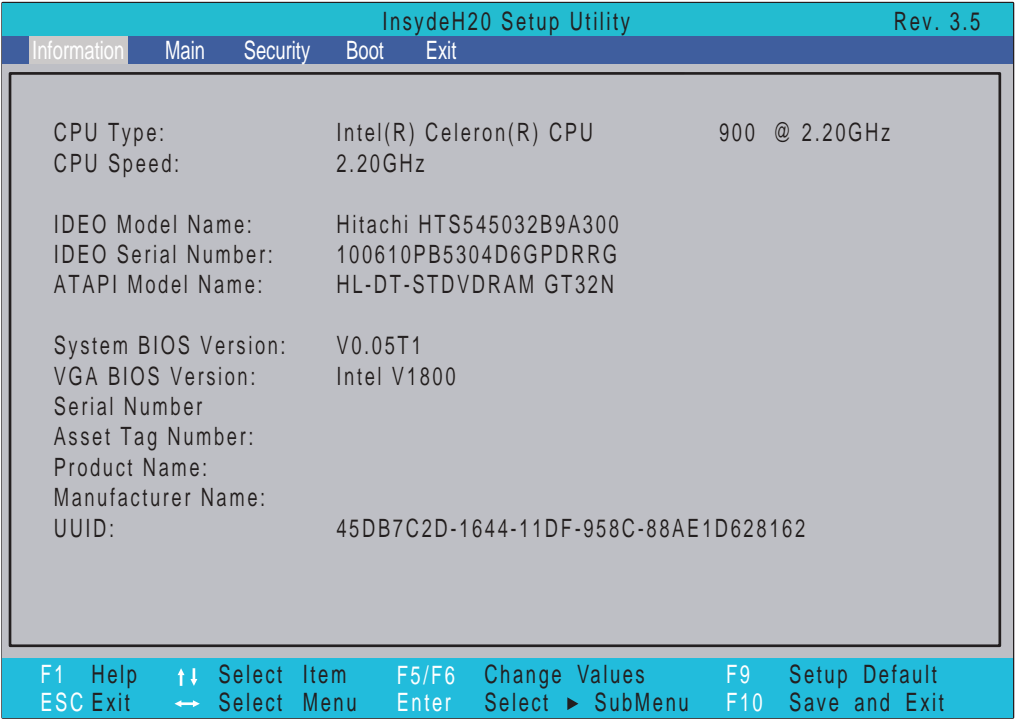
- To choose a menu, use the left and right arrow keys.
- To choose an item, use the up and down arrow keys.
- To change the value of a parameter, press **F5** or **F6**.
- Press **Esc** while you are in any of the menu options to go to the Exit menu.
- In any menu, you can load default settings by pressing **F9**. You can also press **F10** to save any changes made and exit the BIOS Setup Utility.

NOTE: You can change the value of a parameter if it is enclosed in square brackets. Navigation keys for a particular menu are shown on the bottom of the screen. Help for parameters are found in the Item Specific Help part of the screen. Read this carefully when making changes to parameter values. **Please note that system information is subject to different models.**

Packard Bell ENTK36 BIOS

Information

The Information screen displays a summary of the computer hardware information.



NOTE: The screen above is for your reference only. Actual values may differ according to model.

The table below describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings

Parameter	Description
CPU Type	This field shows the CPU type and speed of the system.
CPU Speed	This field shows the speed of the CPU.
IDE0 Model Name	This field shows the model name of IDE0 installed on the system.
IDE0 Serial Number	This field displays the serial number of IDE0 installed on the system.
ATAPI Model Name	This field shows the model name of the Optical device installed in the system.
System BIOS Version	Displays system BIOS version.
VGA BIOS Version	This field displays the VGA firmware version of the system.
Serial Number	This field displays the serial number of this unit.
Asset Tag Number	This field displays the asset tag number of the system.
Product Name	This field shows product name of the system.
Manufacturer Name	This field displays the manufacturer of this system.
UUID	Universally Unique Identifier (UUID) is an identifier standard used in software construction, standardized by the Open Software Foundation (OSF) as part of the Distributed Computing Environment (DCE).

Main

The Main screen allows the user to set the system time and date as well as enable and disable boot options and recovery.

InsydeH20 Setup Utility		Rev. 3.5
Information	Main	Security Boot Exit
<div>System Time [08:56:55]</div> <div>System Date [02/25/2010]</div> <div>Total Memory: 4095 MB</div> <div>Video Memory: [64 MB]</div> <div>Quiet Boot [Enabled]</div> <div>Network Boot [Enabled]</div> <div>F12 Boot Menu [Disabled]</div> <div>D2D Recovery [Enabled]</div> <div>SATA Mode [AHCI Mode]</div>		<div>Item Specific Help</div> <div>This is the help for the hour field. Valid range is from 0 to 23. INCREASE/REDUCE: F5/F6.</div>
F1 Help	↑↓ Select Item	F5/F6 Change Values
ESC Exit	← Select Menu	Enter Select ► SubMenu
		F9 Setup Default
		F10 Save and Exit

NOTE: The screen above is for your reference only. Actual values may differ.

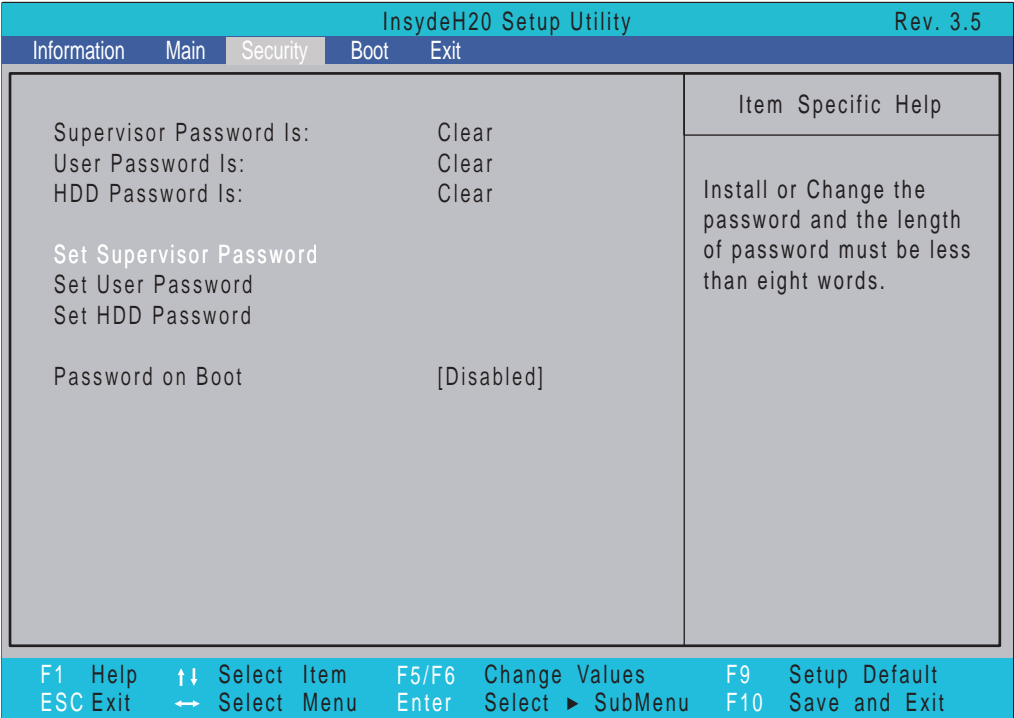
The table below describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Parameter	Description	Format/Option
System Time	Sets the system time. The hours are displayed with 24-hour format.	Format: HH:MM:SS (hour:minute:second)
System Date	Sets the system date.	Format MM/DD/YYYY (month/day/year)
Total Memory	Displays the total memory available.	N/A
Video Memory	Displays the available memory for Video.	N/A
Quiet Boot	The notebook displays an illustration called the OEM screen during system boot instead of the traditional POST screen that displays the normal diagnostic messages.	Option: Enabled or Disabled
Network Boot	Enables, disables the system boot from LAN (remote server).	Option: Enabled or Disabled
F12 Boot Menu	Enables, disables Boot Menu during POST.	Option: Enabled or Disabled
D2D Recovery	Enables, disables D2D Recovery function. The function allows the user to restore the system to factory defaults.	Option: Enabled or Disabled
SATA Mode	Control the mode in which the SATA controller should operate.	Option: AHCI Mode or IDE Mode

Security

The Security screen contains parameters that help safeguard and protect your computer from unauthorized use.

NOTE: System BIOS does not support Trusted Platform Module (TPM).



The table below describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings

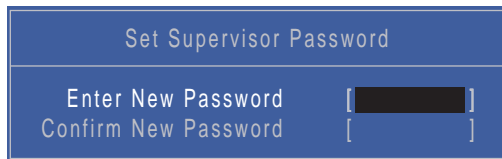
Parameter	Description	Option
Supervisor Password Is	Shows the setting of the supervisor password	Clear or Set
User Password Is	Shows the setting of the user password.	Clear or Set
HDD Password Is	Shows the setting of the HDD password.	Clear , Set, or Frozen
Set Supervisor Password	Press Enter to set the supervisor password. When supervisor password is set, the BIOS Setup Utility is protected from unauthorized access. The user can not either enter the Setup menu nor change the value of parameters except the date and time.	N/A
Set User Password	Press Enter to set the user password. When user password is set, this password protects the BIOS Setup Utility from unauthorized access. The user can enter Setup menu only and does not have right to change the value of parameters.	N/A
Set HDD Password	Enter HDD Password.	N/A
Password on Boot	Defines whether a password is required or not in order for the computer to finish booting up. CAUTION: It may be difficult to reset the computer once the password is lost. Take care when using this function.	Disabled or Enabled

NOTE: When prompted to enter a password, you have three tries before the system halts. If you forget your password, you may have to return your notebook computer to your dealer to reset it.

Setting a Password

Follow these steps as you set the user or the supervisor password:

1. Use the ↑ and ↓ keys to highlight the Set Supervisor Password parameter and press the **Enter** key. The Set Supervisor Password box appears:



A blue rectangular dialog box titled "Set Supervisor Password". It contains two input fields: "Enter New Password" and "Confirm New Password", each followed by a pair of square brackets [] for text entry.

2. Type a password in the "Enter New Password" field. The password length can not exceed 8 alphanumeric characters (A-Z, a-z, 0-9, not case sensitive). Retype the password in the "Confirm New Password" field.

IMPORTANT: Be very careful when typing your password because the characters do not appear on the screen.

3. Press **Enter**. After setting the password, the computer sets the Supervisor Password parameter to "Set".
4. If desired, you can opt to enable the Password on Boot parameter.
5. When you are done, press F10 to save the changes and exit the BIOS Setup Utility.

Removing a Password

Follow these steps:

1. Use the ↑ and ↓ keys to highlight the Set Supervisor Password parameter and press the **Enter** key. The Set Supervisor Password box appears:

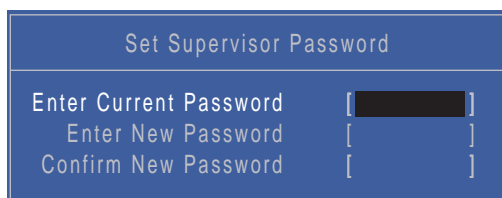


A blue rectangular dialog box titled "Set Supervisor Password". It contains three input fields: "Enter Current Password", "Enter New Password", and "Confirm New Password", each followed by a pair of square brackets [] for text entry.

2. Type the current password in the Enter Current Password field and press **Enter**.
3. Press **Enter** twice **without** typing anything in the Enter New Password and Confirm New Password fields. The computer then sets the Supervisor Password parameter to "Clear".
4. When you have changed the settings, press F10 to save the changes and exit the BIOS Setup Utility.

Changing a Password

1. Use the ↑ and ↓ keys to highlight the Set Supervisor Password parameter and press the **Enter** key. The Set Supervisor Password box appears.



A blue rectangular dialog box titled "Set Supervisor Password". It contains three input fields, each with a label and a pair of square brackets for text entry. The first field is labeled "Enter Current Password", the second "Enter New Password", and the third "Confirm New Password".

Set Supervisor Password	
Enter Current Password	[]
Enter New Password	[]
Confirm New Password	[]

2. Type the current password in the Enter Current Password field and press **Enter**.
3. Type a password in the Enter New Password field. Retype the password in the Confirm New Password field.
4. Press **Enter**. After setting the password, the computer sets the Supervisor Password parameter to "Set".
5. If desired, you can enable the Password on Boot parameter.
6. When you are done, press F10 to save the changes and exit the BIOS Setup Utility.

If the verification is OK, the screen will display as following.

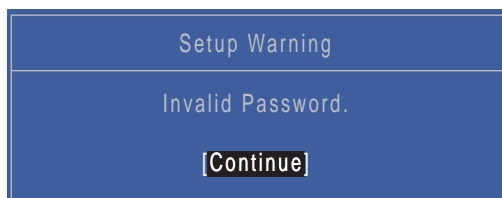


A blue rectangular dialog box titled "Setup Notice". It contains the text "Changes have been saved." and a highlighted button labeled "[Continue]".

Setup Notice
Changes have been saved.
[Continue]

The password setting is complete after the user presses **Enter**.


If the current password entered does not match the actual current password, the screen will show you the Setup Warning.



A blue rectangular dialog box titled "Setup Warning". It contains the text "Invalid Password." and a highlighted button labeled "[Continue]".

Setup Warning
Invalid Password.
[Continue]

If the new password and confirm new password strings do not match, the screen will display the following message.



A blue rectangular dialog box titled "Setup Warning". It contains the text "Passwords do not match. Re-enter password." and a highlighted button labeled "[Continue]".

Setup Warning
Passwords do not match. Re-enter password.
[Continue]

Boot

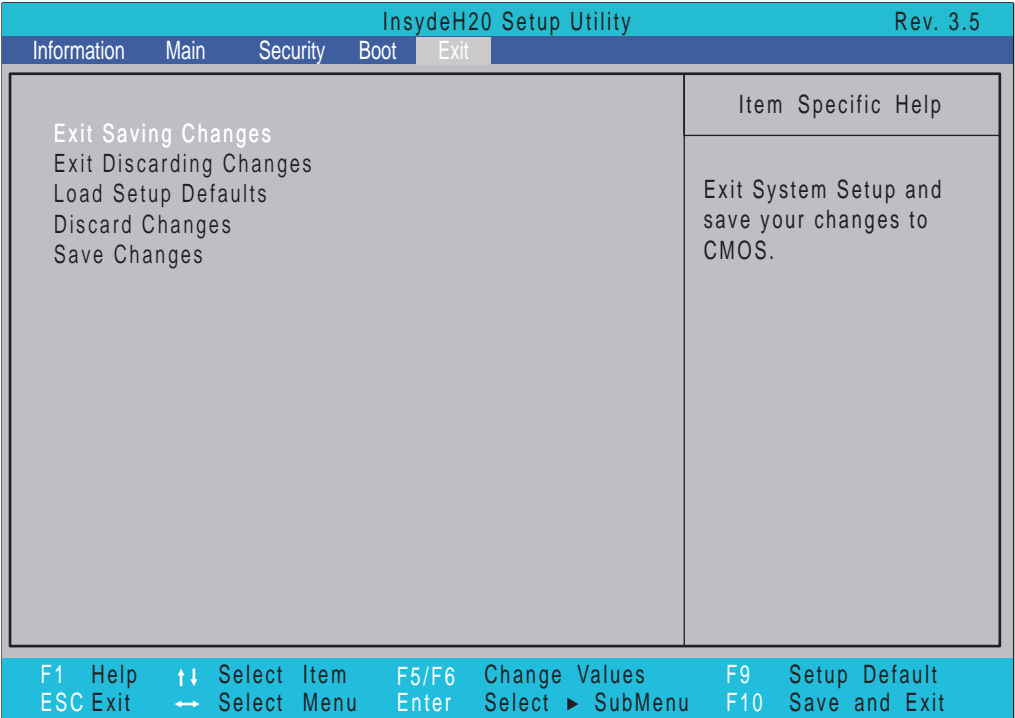
This menu allows the user to decide the order of boot devices to load the operating system. Bootable devices includes the USB diskette drives, the onboard hard disk drive and the DVD drive in the module bay.

Select Boot menu to select specific devices to support boot.

InsydeH20 Setup Utility				Rev. 3.5					
Information		Main		Security		Boot		Exit	
Boot priority order: 1. IDE0 : Hitachi HTS545032B9A300 2. IDE1 : HL-DT-STDVDRAM GT32N 3. USB FDD : 4. Network Boot : MBA v12.2.0 Slot 0500 5. USB HDD : 6. USB CDROM:						Item Specific Help			
						Use <↑> or <↓> to select a device, then press <F5> to move it down the list, or <F6> to move it up the list. Press <Esc> to escape the menu			
F1 Help		↑↓ Select Item		F5/F6 Change Values		F9 Setup Default			
ESC Exit		↔ Select Menu		Enter Select ► SubMenu		F10 Save and Exit			

Exit

The Exit screen allows you to save or discard any changes you made and quit the BIOS Utility.



The table below describes the parameters in this screen.

Parameter	Description
Exit Saving Changes	Exit System Setup and save your changes.
Exit Discarding Changes	Exit utility without saving setup data.
Load Setup Default	Load default values for all setup item.
Discard Changes	Load previous values for all setup items.
Save Changes	Save setup data.

BIOS Flash Utilities

The BIOS flash memory update is required for the following conditions:

- New versions of system programs
- New features or options
- Restore a BIOS when it becomes corrupted.

Use the flash utility to update the system BIOS flash ROM.

NOTE: If you do not have a crisis recovery diskette at hand, then you should create a **Crisis Recovery Diskette** before you use the flash utility.

NOTE: Do not install memory-related drivers (XMS, EMS, DPMI) when you use the flash.

NOTE: Please use the AC adaptor power supply when you run the flash utility. If the battery pack does not contain enough power to finish BIOS flash, you may not boot the system because the BIOS is not completely loaded.

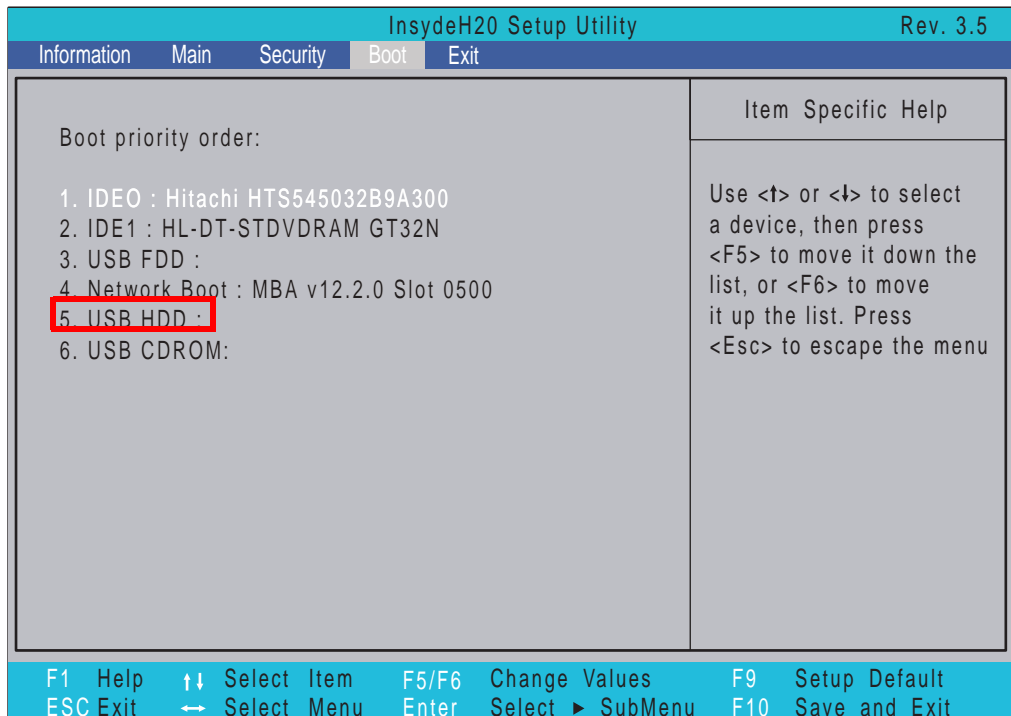
Follow the steps below to run the flash.

1. Prepare a bootable diskette.
2. Copy the flash utilities to the bootable diskette.
3. Then boot the system from the bootable diskette. The flash utility has auto-execution function.

DOS Flash Utility

Perform the following steps to use the DOS Flash Utility:

1. Press F2 during boot to enter the Setup Menu.
2. Select **Boot Menu** to modify the boot priority order, for example, if using USB HDD to Update BIOS, move USB HDD to position 1.



3. Execute the **XEWXX100.BAT** batch file to update BIOS.

The flash process begins as shown.

```
C:\ROMs\XEWxx100\DOS>dir

Volume in drive C is ISS_4GB
Volume Serial Number is 3666-33A4
Directory of C:\ROMs\XEWxx100\DOS

.                <DIR>                06-04-2010  14:31  .
..               <DIR>                06-04-2010  14:31  ..
FLASHIT  EXE           496,574  02-07-2009   2:24  FLASHIT.EXE
XEWXX100 BAT              26  06-04-2010  14:32  XEWXX100.BAT
XEWXX100 FD       2,097,152  06-04-2010  14:31  XEWXX100.FD
          3 file(s)          2,593,752 bytes
          2 dir(s)    2,524,848,128 bytes free

C:\ROMs\XEWxx100\DOS>_
```



```
C:\ROMs\XEWxx101.bat
```

```
C:\ROMs\flashit.exe XEWxx101.FD /all
```

Please do not remove the AC power!

Insyde Flash Utility for InsydeH20
Version 1.3z

Initializing

File loading 100 %

Current BIOS Model name : BA/JE/HM/SJV5x-DN
New BIOS Model name : BA/JE/HM/SJV5x-DN

Current BIOS version: V1.00
New BIOS version: V1.01

Updating Block at FFEA6000

4. In flash BIOS, the message **Please do not remove AC Power Source** displays.

NOTE: If the AC power is not connected, the following message displays.

Warning: No AC power connect

Plug in the AC power to continue.

5. Flash is complete when the message Flash programming complete displays.

WinFlash Utility

Perform the following steps to use the WinFlash Utility:

1. Double-click the WinFlash executable.
2. Click **OK** to begin the update. A progress screen displays.



Remove HDD/BIOS Password Utilities

This section provides you with details about removing HDD/BIOS password:

Remove HDD Password:

If you key in the wrong HDD password three times, an error is generated.



To reset the HDD password, perform the following steps:

1. After the error is displayed, select the **Enter Unlock Password** option on the screen.



2. An Encode key is generated for unlocking utilities. Note down this key.



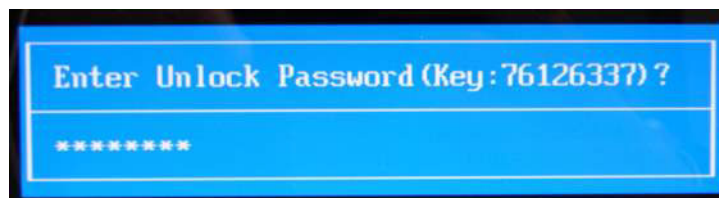
3. Execute the **UnlockHD.EXE** file to create the unlock code in DOS Mode using the format **UnlockHD [Encode code]** with the code noted in the previous step, as follows:

UnlockHD 76943488

4. The command generates a password which can be used for unlocking the HDD.

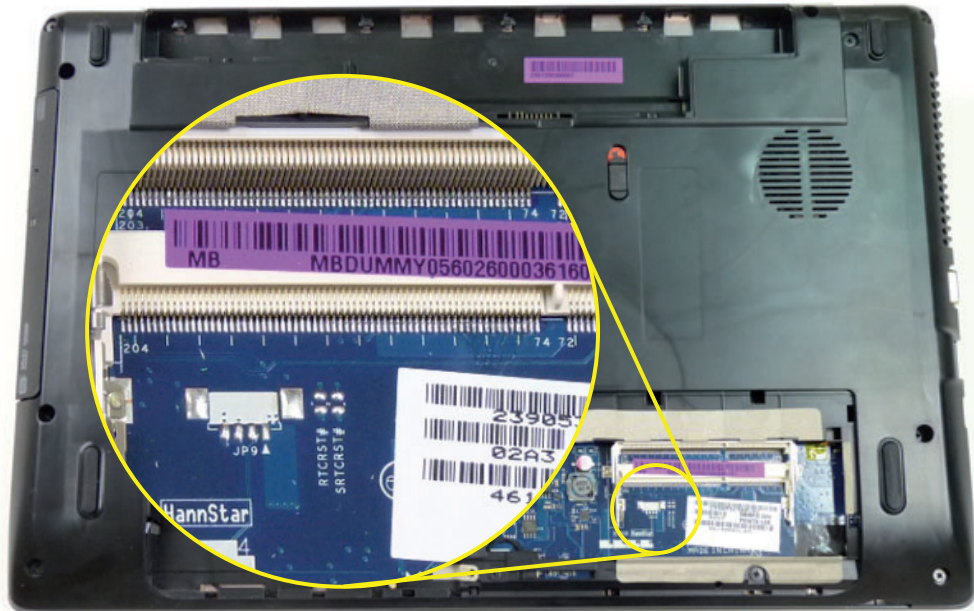
Password: 46548274

5. Key in the password from the previous step to unlock the HDD as shown.



Removing BIOS Passwords:

To clear the User or Supervisor passwords, open the DIMM door and use a metal instrument to short the RTCRST# point.



Cleaning BIOS Passwords

To clean the User or Supervisor passwords, perform the following steps:

1. From a DOS prompt, execute **clnpwd.exe**
2. Press 1 or 2 to clean the desired password shown on the screen.

```
d:\Clnpwd>clnpwd
ACER Clean Password Utility V1.00
Press 1 or 2 to clean any password shown as below
  1.User Password
  2.Supervisor Password

Clean User Password Successfully!
```

The onscreen message determines whether the function is successful or not.

Using Boot Sequence Selector

The Boot Sequence Selector allows the boot order to be changed without accessing the BIOS. To use Boot Sequence Selector, perform the following steps:

1. Enter into DOS.
2. Execute **BS.exe** to display the usage screen.



```
d:\B00TSEQ>bs

*** Boot Sequence Selector Version 0.03 ***
Create by Rockwell Chuang 10/01/2005.

Usage:
      BS [ 1 | 2 | 3 | 4 ]

BS 1 : [ Floppy ] => [ HardDisk ] => [ CD-ROM ] => [ LAN ]
BS 2 : [ HardDisk ] => [ CD-ROM ] => [ LAN ] => [ Floppy ]
BS 3 : [ CD-ROM ] => [ HardDisk ] => [ LAN ] => [ Floppy ]
BS 4 : [ LAN ] => [ Floppy ] => [ HardDisk ] => [ CD-ROM ]

d:\B00TSEQ>
```

3. Select the desired boot sequence by entering the corresponding sequence. For example, enter **BS 2** to change the boot sequence to HDD | CD ROM | LAN | Floppy.

Using DMITools

The DMI (Desktop Management Interface) Tool copies BIOS information to EEPROM to be used in the DMI pool for hardware management.

When the BIOS displays **Verifying DMI pool data** it is checking that the table correlates with the hardware before sending to the operating system (Windows, etc.).

To update the DMI Pool, perform the following steps:

1. Boot into DOS.
2. Execute **dmitools**. The following messages report to screen to confirm completion:
 - `dmitools /r ==>` Read dmi string from bios
 - `dmitools /wm xxxx ==>` Write manufacturer name to eeprom (max. 16 characters)
 - `dmitools /wp xxxx ==>` Write product name to eeprom (max. 16 characters)
 - `dmitools /ws xxxx ==>` Write serial number to eeprom (max. 22 characters)
 - `dmitools /wu xxxx ==>` Write uuid to eeprom
 - `dmitools /wa xxxx ==>` Write asset tag to eeprom (max. 32 characters)

The following examples show the commands and the corresponding output information.

Read DMI Information from Memory

Input:

```
dmitools /r
```

Output:

```
Manufacturer (Type1, Offset04h): Packard Bell
```

```
Product Name (Type1, Offset05h): ENTK36
```

```
Serial Number (Type1, Offset07h): 01234567890123456789
```

```
UUID String (Type1, Offset08h): xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
```

Write Manufacturer Name to EEPROM

Input:

```
dmitools /wm Packard Bell
```

```
Write Product Name to EEPROM
```

Input:

```
dmitools /wp New95
```

Write Serial Number to EEPROM (Create UUID from Intel WFM20.pdf)

Input:

```
dmitools /ws 01234567890123456789
```

Write UUID to EEPROM

Input:

```
dmitools /wu
```

Write Asset Tag to EEPROM

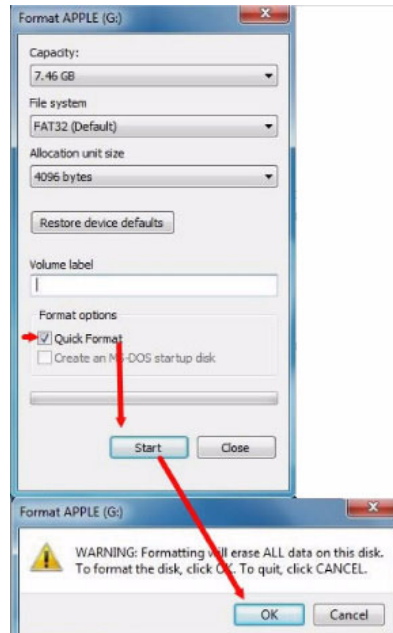
Input:

```
dmitools /wa Acer Asstag
```

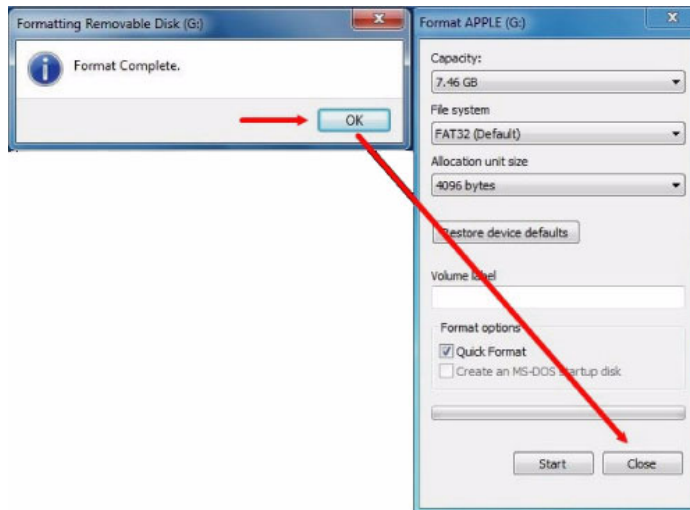
NOTE: When using Write options, restart the system to make the new DMI data effective.

Creating a USB Flash Crisis Disk

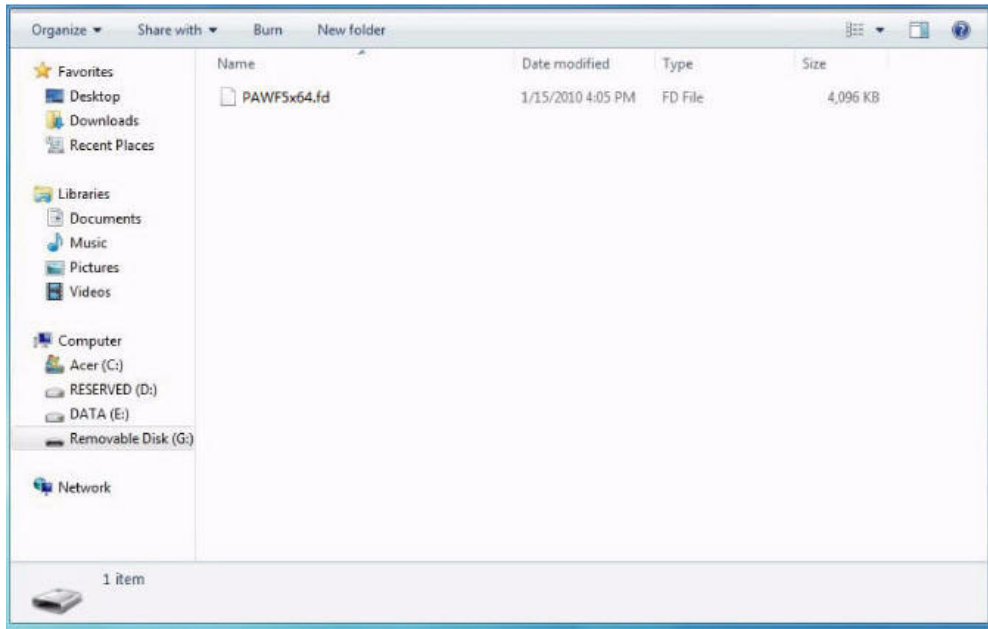
1. Plug in the USB flash disk.
2. Select the **Fast Format** option and click **Start**. Then click **Next**.



3. Click **Format** and then **Exit** to complete the operation.



4. Copy the PAWF5x64.fd file to the USB flash disk root directory.



NOTE: Do not place any other *.fd files to the USB flash disk root directory.

Using the crisis disk

1. Plug in the USB Flash Disk without AC plug.

Machine Disassembly and Replacement

IMPORTANT: The outside housing and color may vary from the mass produced model.

This chapter contains step-by-step procedures on how to disassemble the notebook computer for maintenance and troubleshooting.

Disassembly Requirements

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- Flat screwdriver
- Philips screwdriver
- Plastic flat screwdriver
- Plastic tweezers

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components.

Pre-disassembly Instructions

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.



3. Place the system on a flat, stable surface.

Disassembly Process

IMPORTANT: The LCD Module cannot be disassembled outside of factory conditions. If any part of the LCD Module is faulty, such as the camera, antenna or LCD panel, the whole module must be replaced.

The disassembly process is divided into the following stages:

- External module disassembly
- Main unit disassembly
- LCD module disassembly

The flowcharts provided in the succeeding disassembly sections illustrate the entire disassembly sequence. Observe the order of the sequence to avoid damage to any of the hardware components. For example, if you want to remove the mainboard, you must first remove the keyboard, then disassemble the inside assembly frame in that order.

Main Screw List

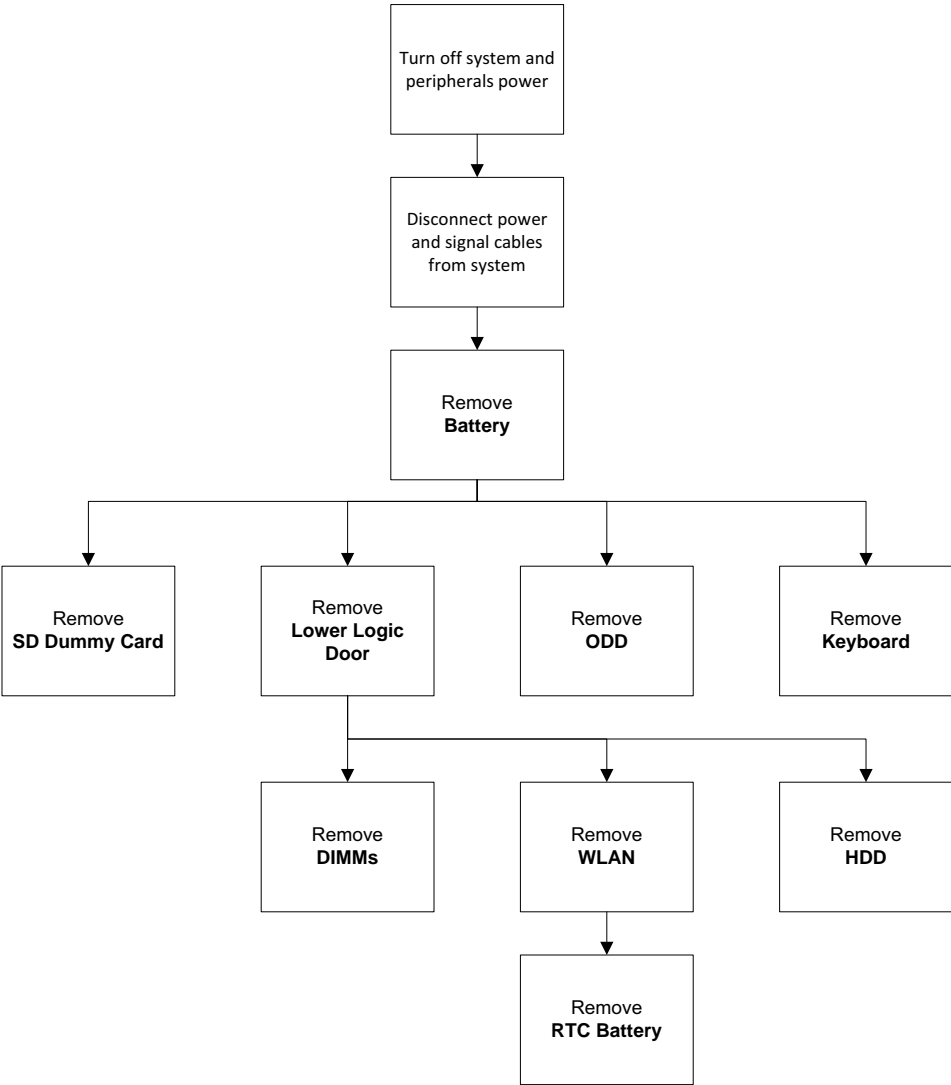
Screw	Quantity	Part Number
M2.5*8	19	86.R4F02.002
M2*3	17	86.R4F02.004
M2.5*5	16	86.R4F02.001
M1.98*3	4	86.R4F02.008
M2.5*6	2	86.R4F02.003
M3*3	4	86.R4F02.005

External Module Disassembly Process

IMPORTANT: The outside housing and color may vary from the mass produced model.

External Modules Disassembly Flowchart

The flowchart below gives you a graphic representation of the external module disassembly sequence and instructs you on the components that need to be removed during servicing. For example, if you want to remove the keyboard, you must first remove the switch board.



Screw List

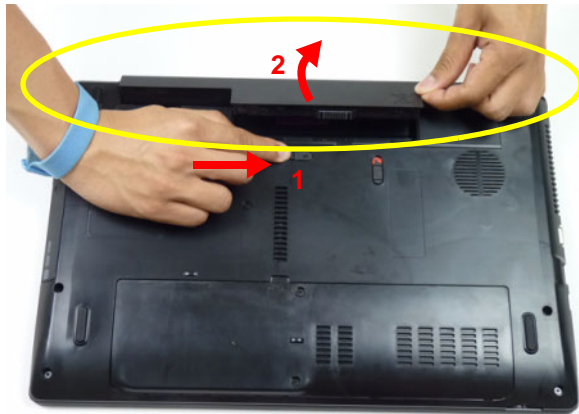
Step	Screw	Quantity	Part No.
ODD Module	M 2.5*8	1	86.R4F02.002
ODD Bracket	M2*3	2	86.R4F02.004
Lower Logic Door	M2.5*8	2	86.R4F02.002
WLAN Module	M2*3	1	86.R4F02.004
HDD Carrier	M3*3	4	86.R4F02.005

Removing the Battery Pack

1. Turn computer over. Slide the battery lock in the direction shown.



2. Slide and hold the battery release latch to the release position (1), then lift out the battery pack from the main unit (2).



NOTE: The battery has been highlighted with a yellow oval as shown in the above image. Please detach the battery and follow local regulations for disposal.

Removing the SD Dummy Card

1. Push the SD dummy card all the way in to eject it.



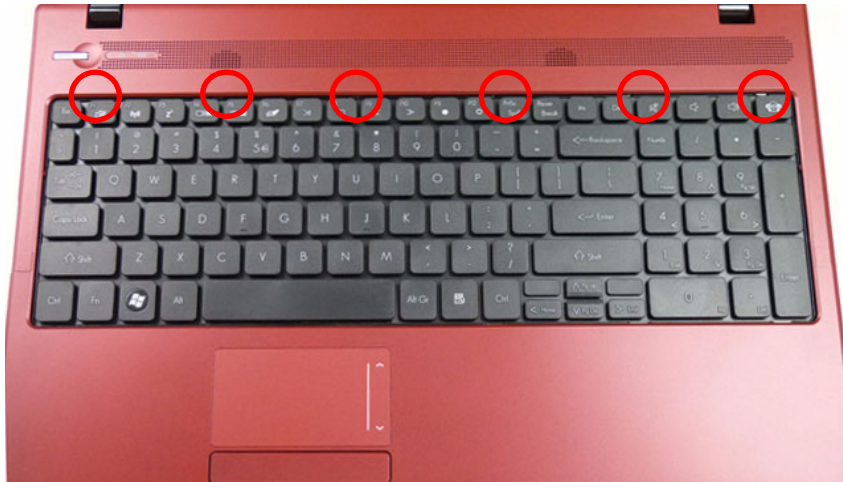
2. Pull it out from the slot.



Removing the Keyboard

NOTE: The color of the upper cover may vary depending on model.

1. Unlock the six (6) keyboard locks.



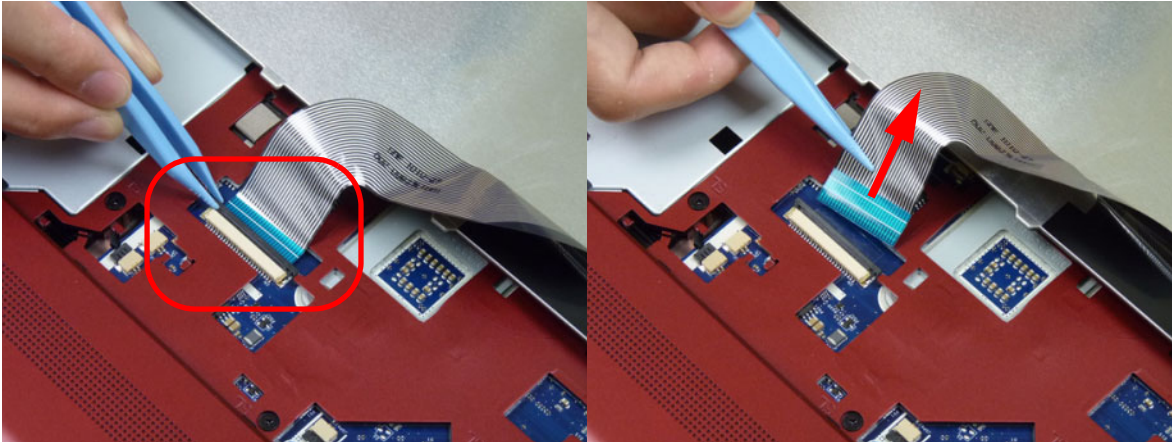
2. Pry up the center of the keyboard and rotate it upward away from the upper cover.



3. Turn the keyboard over on to the touchpad area to expose the FPC connector.



-
4. Open the locking latch and disconnect the FPC from the mainboard.




5. Lift the keyboard clear of the upper cover.



Removing the ODD Module

- 1. See “Removing the Battery Pack” on page 47.
- 2. Remove the one (1) screw securing the ODD module.

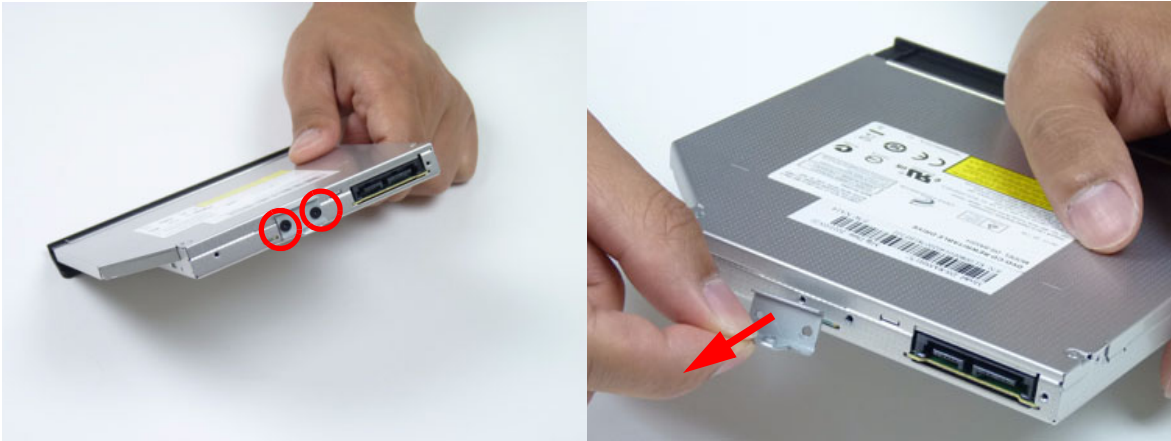



Step	Size	Quantity	Screw Type
ODD Module	M2.5*8	1	

- 3. Pull the ODD module out from the chassis.



4. Remove the two (2) screws securing the ODD bracket and remove the ODD bracket from the ODD module.



Step	Size	Quantity	Screw Type
ODD Bracket	M2*3	2	


5. Remove the ODD bezel by prying the top edge away and clear of the module.



Removing the Logic Lower Door

1. Remove two (2) screws from the logic lower door.



Step	Size	Quantity	Screw Type
Logic Lower Door	M2.5*8	2	

2. Lift the door beginning from the inner edge as shown.

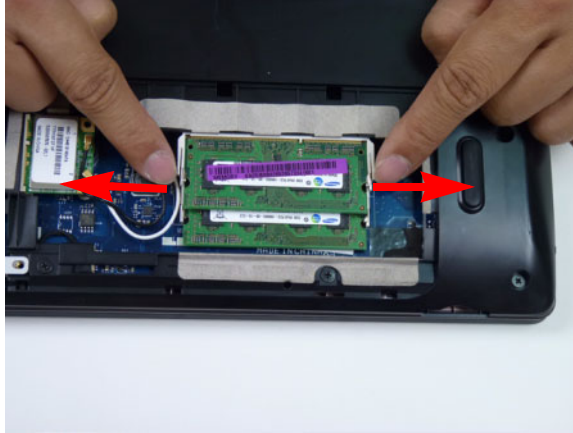


3. Lift the door clear of the device, exposing the HDD, DIMM, and WLAN modules.

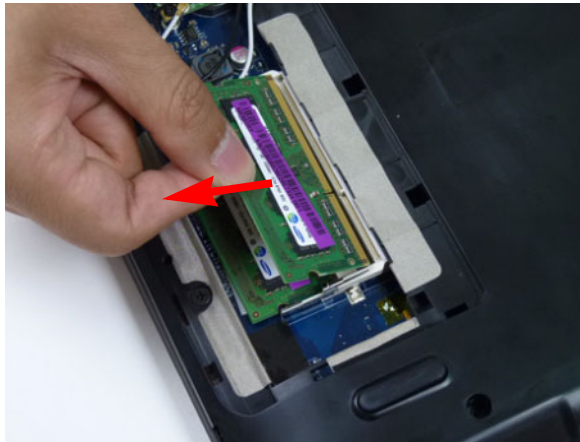


Removing the DIMM Module

1. See “Removing the Logic Lower Door” on page 53.
2. Push out the release latches on both sides of the DIMM socket to release the DIMM module.



3. Remove the DIMM module.



4. Repeat steps 2 and 3 for the second DIMM module if present.

Removing the WLAN Module


- 1. See “Removing the Logic Lower Door” on page 53.
- 2. Disconnect the antenna cables from the WLAN module.



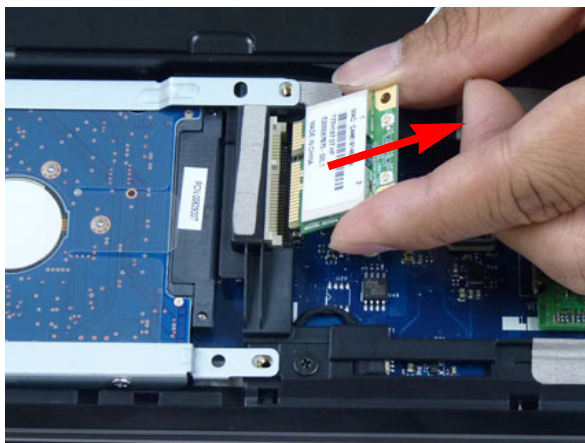
NOTE: Cable placement is **Black** to the **MAIN** terminal and **White** to the **AUX** terminal.

- 3. Move the antenna away and remove the one (1) screw to release the WLAN module.



Step	Size	Quantity	Screw Type
WLAN Module	M2*3	1	

-
4. Detach the WLAN module from the WLAN socket.



Removing the HDD Module

1. See “Removing the Logic Lower Door” on page 53.
2. Using the pull-tab, slide the HDD module in the direction of the arrow to disconnect the interface.

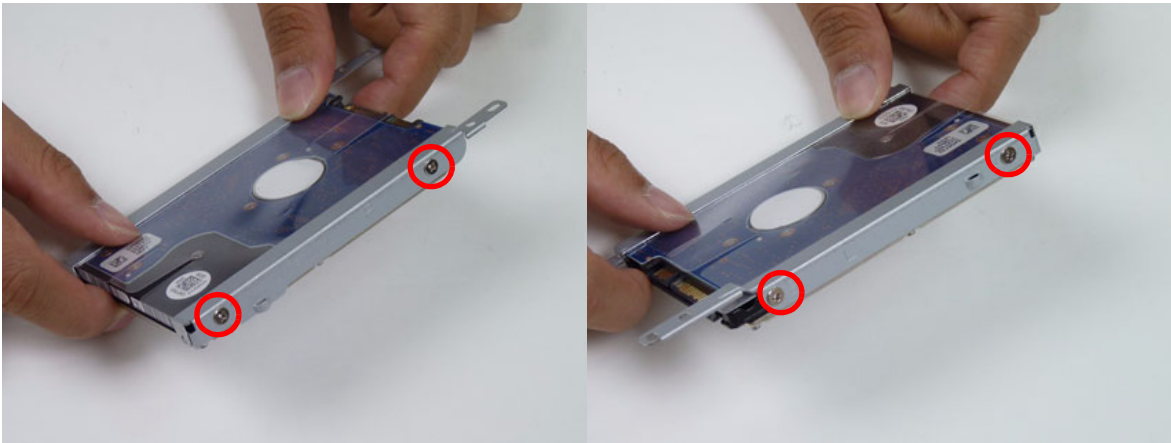



3. Lift the HDD module clear of the HDD bay.



NOTE: To prevent damage to device, avoid pressing down on it or placing heavy objects on top of it.

4. Remove the four (4) screws (two each side) securing the HDD to the carrier.



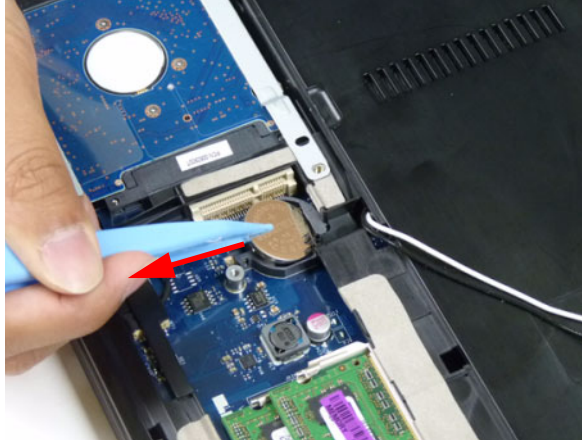
Step	Size	Quantity	Screw Type
HDD Carrier	M3*3	4	

5. Remove the HDD from the carrier.



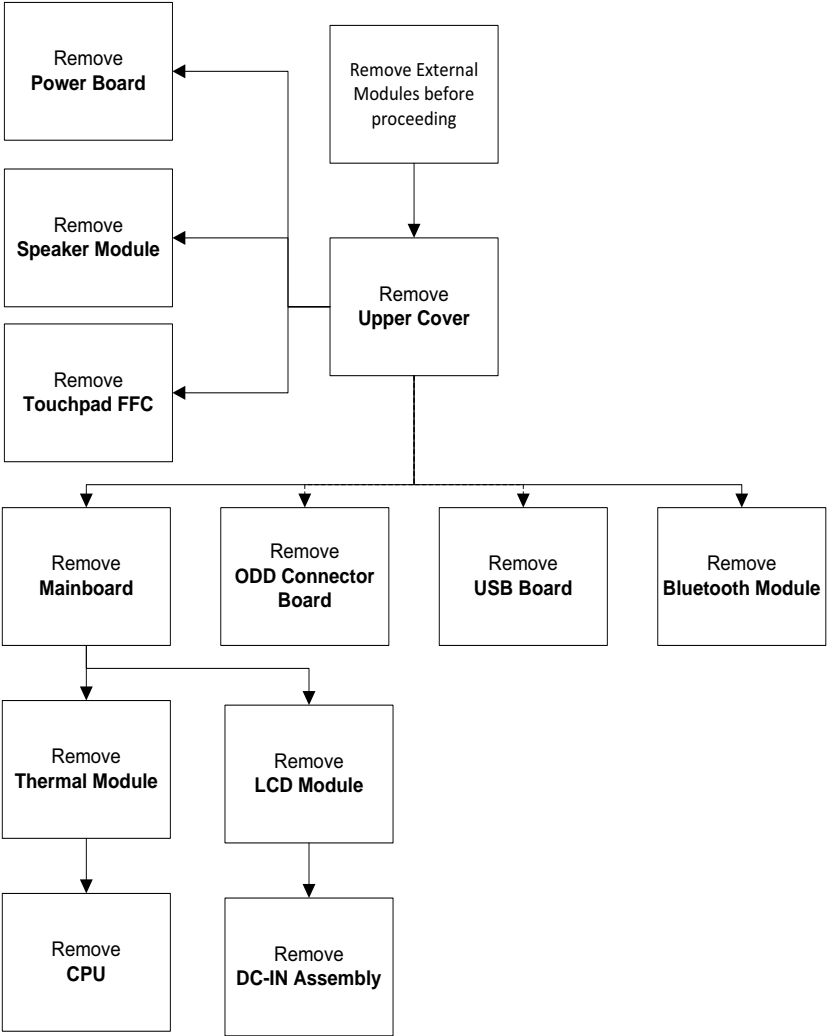
Removing the RTC Battery

1. See “Removing the Logic Lower Door” on page 53.
2. Using plastic tweezers, lift the RTC battery from mainboard connector.



Main Unit Disassembly Process

Main Unit Disassembly Flowchart

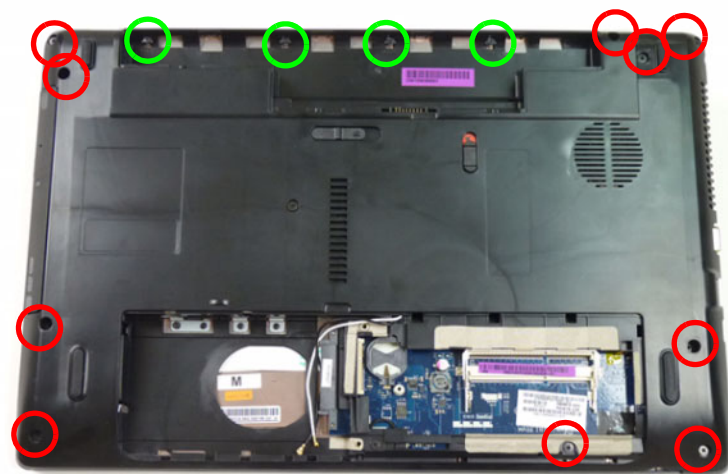




Screw List

Step	Screw	Quantity	Part No.
Lower Cover	M2.5*8	11	86.R4F02.002
	M2*3	4	86.R4F02.004
Upper Cover	M2.5*5	7	86.R4F02.001
Speaker	M2*3	2	86.R4F02.004
Power Board	M2*3	1	86.R4F02.004
USB Board	M2*3	1	86.R4F02.004
Mainboard	M2.5*5	4	86.R4F02.001
Thermal Module	M1.98*3	4	86.R4F02.008
LCD Module	M2.5*8	4	86.R4F02.002

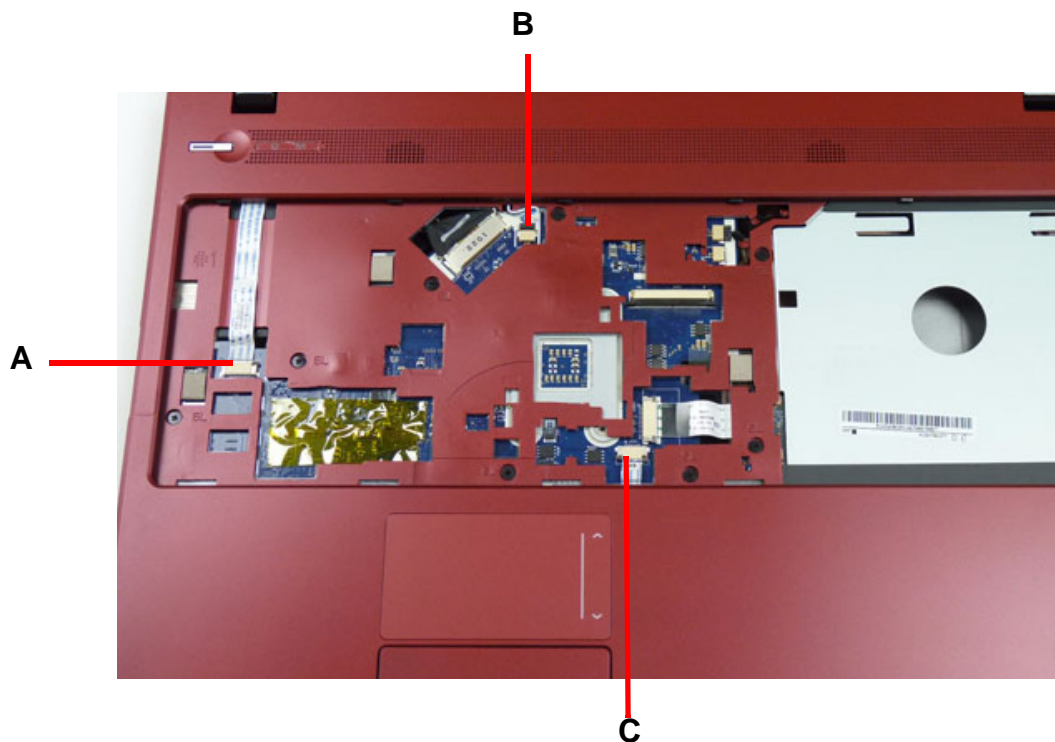
Removing the Upper Cover

- 1. See “External Module Disassembly Process” on page 46.
- 2. Turn the computer over. Remove the ten (10) screws on the lower cover and four (4) screws from the battery bay.

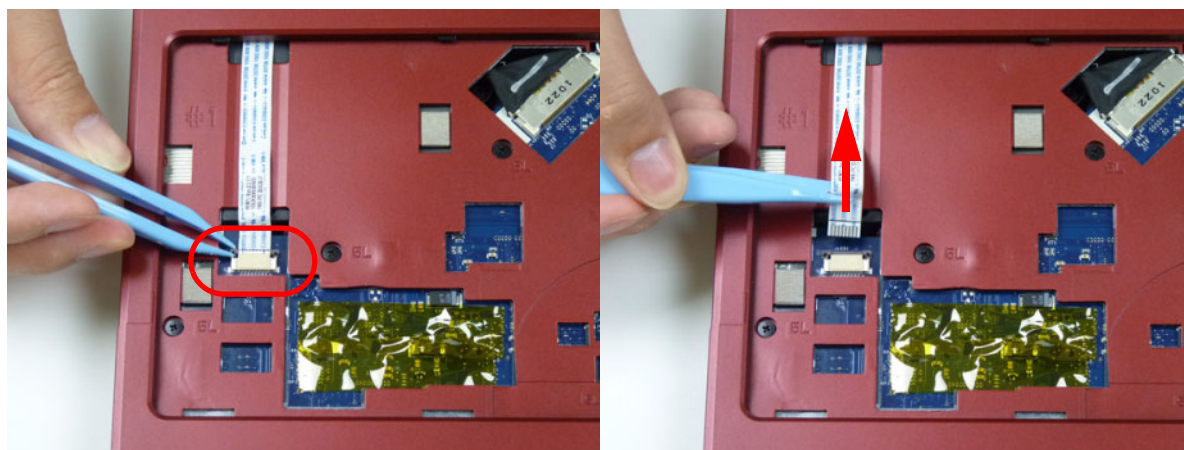


Step	Size	Quantity	Screw Type
Lower Cover	M2.5*8 (red callout)	10	
	M2*3 (green callout)	4	

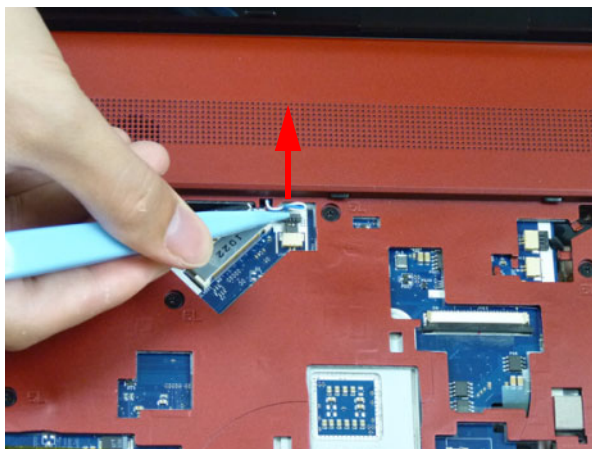
3. Turn the computer over and disconnect the following three (3) cables from the mainboard.



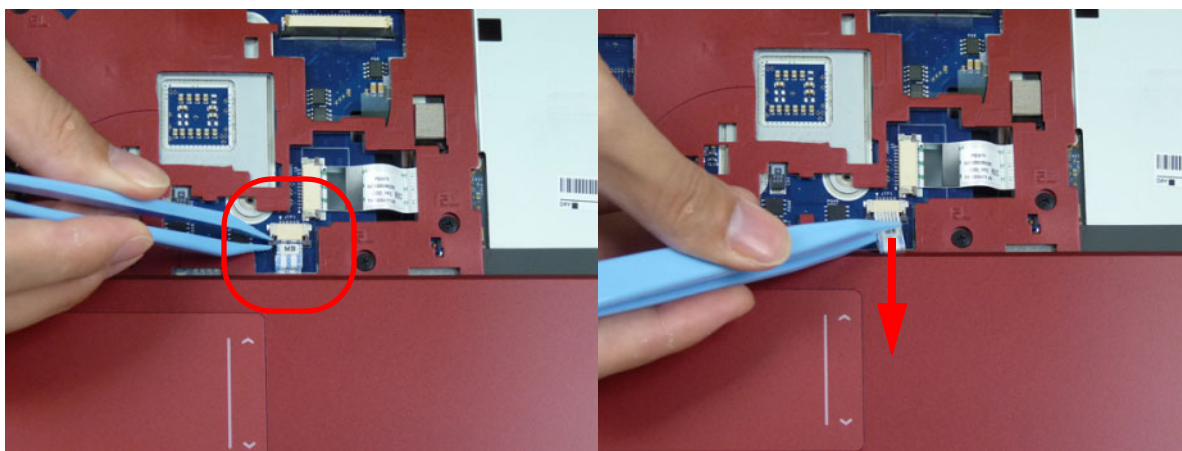
4. Unlock and disconnect the power board FFC (A).



-
5. Disconnect the speaker cable (B).

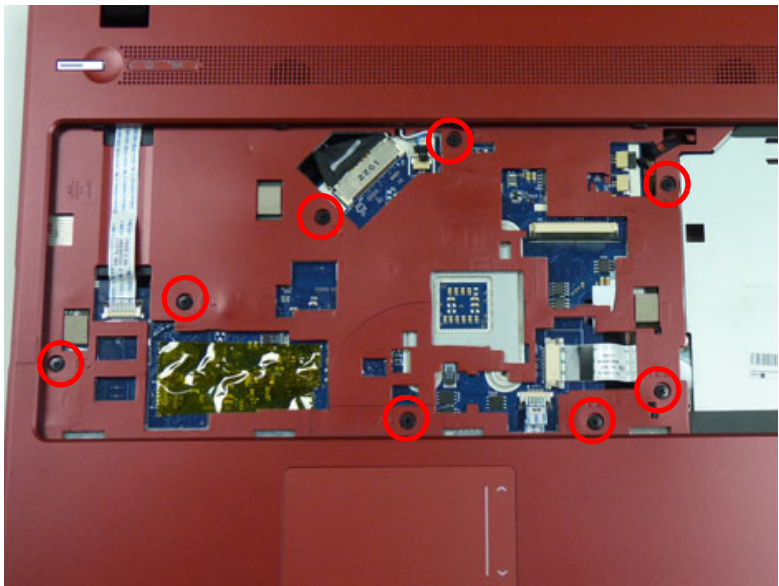



6. Unlock and disconnect the touchpad FFC (C).



NOTE: Avoid pulling on cables directly to prevent damage to the connectors.

7. Remove the eight (8) screws from the upper cover as shown.



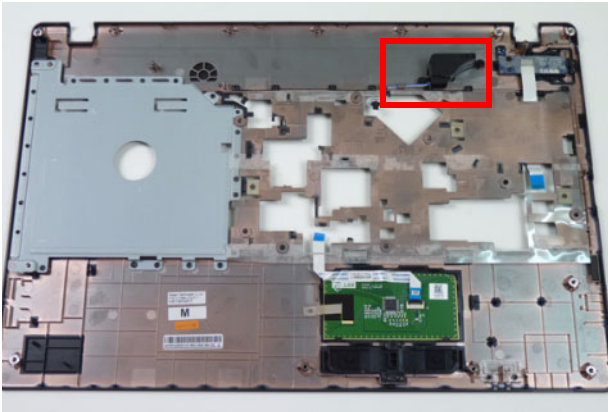
Step	Size	Quantity	Screw Type
Upper Cover	M2.5*5	8	

8. Starting at the bottom right side of the cover, pry apart the upper and lower covers as shown. Work along the front edge of the casing to the left as shown, then lift the upper cover clear of the lower cover.

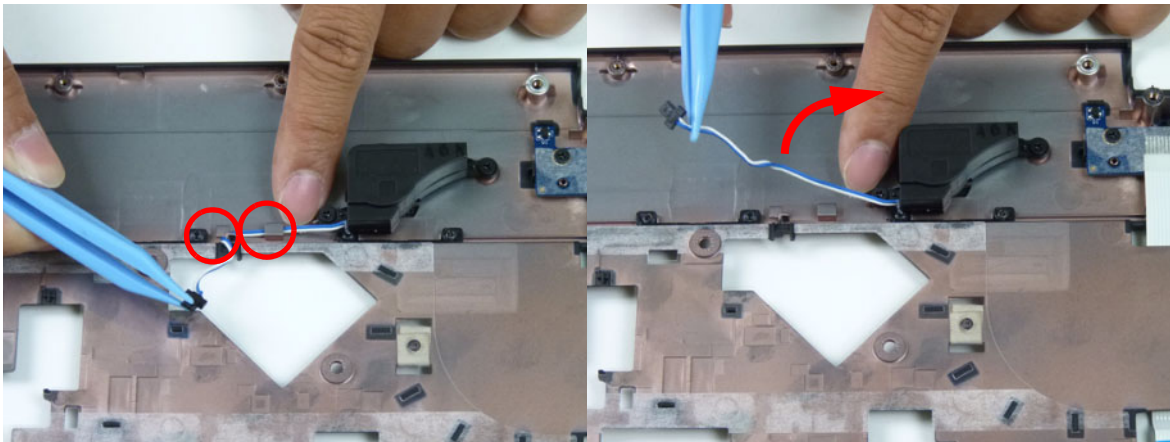


Removing the Speaker Module

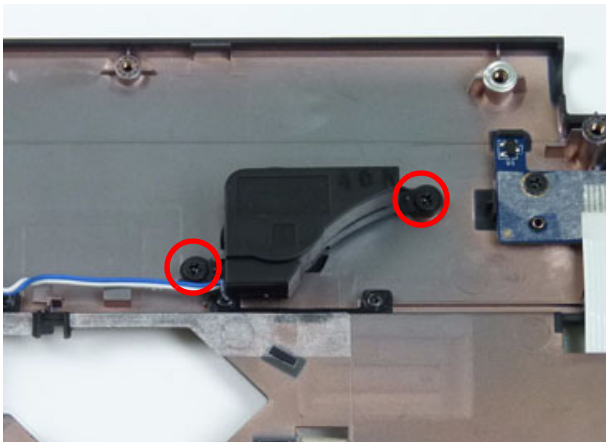
- 1. See "Removing the Upper Cover" on page 61.
- 2. Locate the speaker module on the upper cover as shown.




- 3. Remove the speaker module cable from the cable guides.

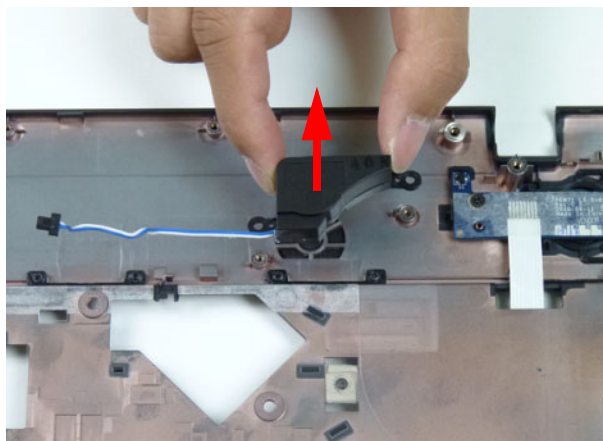


- 4. Remove two (2) screws securing the speaker to the upper cover.



Step	Size	Quantity	Screw Type
Upper Cover	M2*3	2	

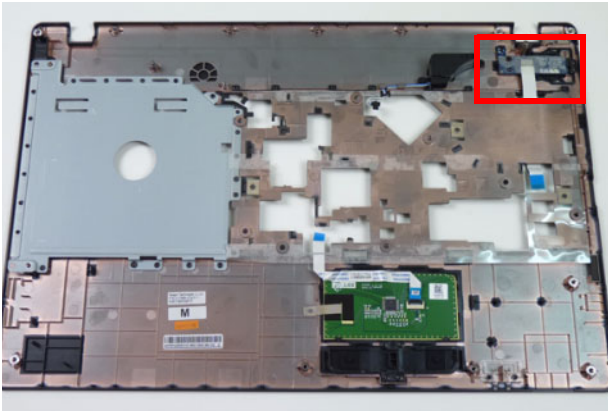
-
5. Lift the speaker module clear of the device.



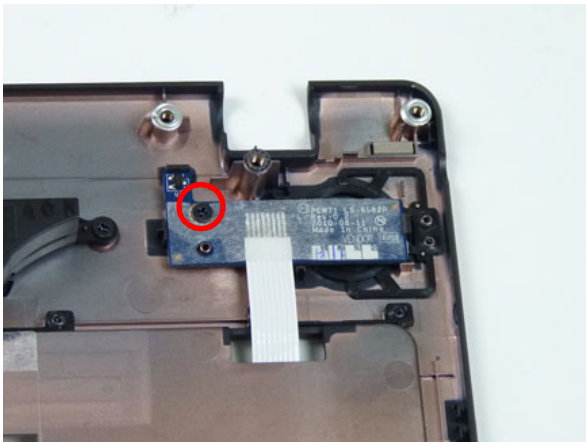
Removing the Power Board


NOTE: The power board may vary depending your model.

- 1. See “Removing the Upper Cover” on page 61.
- 2. Locate the power board on the upper cover as shown.

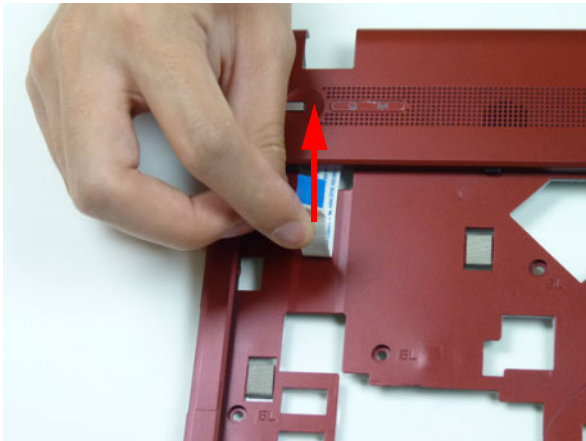


- 3. Remove one (1) screw from the power board.

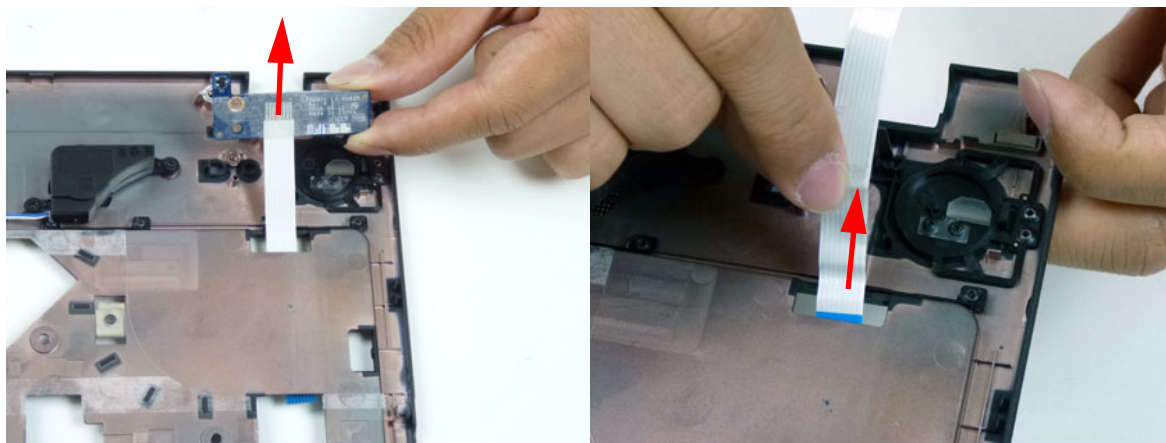


Step	Size	Quantity	Screw Type
Power Board	M2*3	1	

- 4. Turn the upper cover over and remove the power board cable from the upper cover.



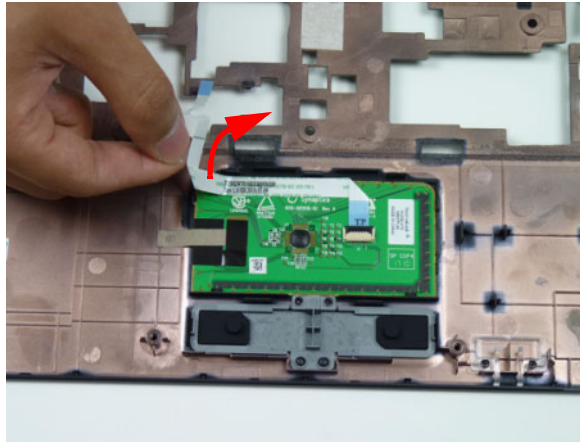
-
5. Lift the power board from the upper cover and pull the FFC cable through the opening.



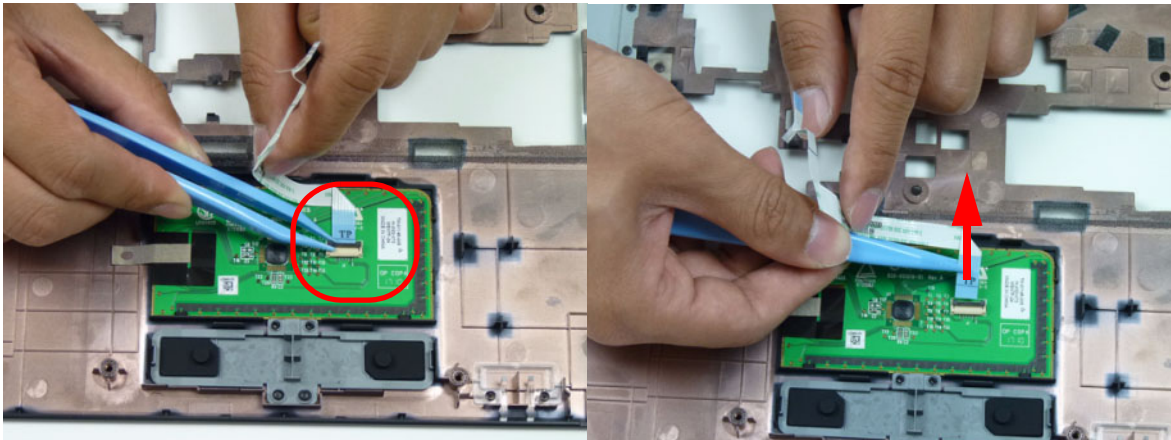
Removing the Touchpad FFC

IMPORTANT: The touchpad board cannot be removed individually. To replace the touchpad board, replace the entire upper cover.

1. See “Removing the Upper Cover” on page 61.
2. Lift the FFC to detach the adhesive securing the cable to the upper cover.

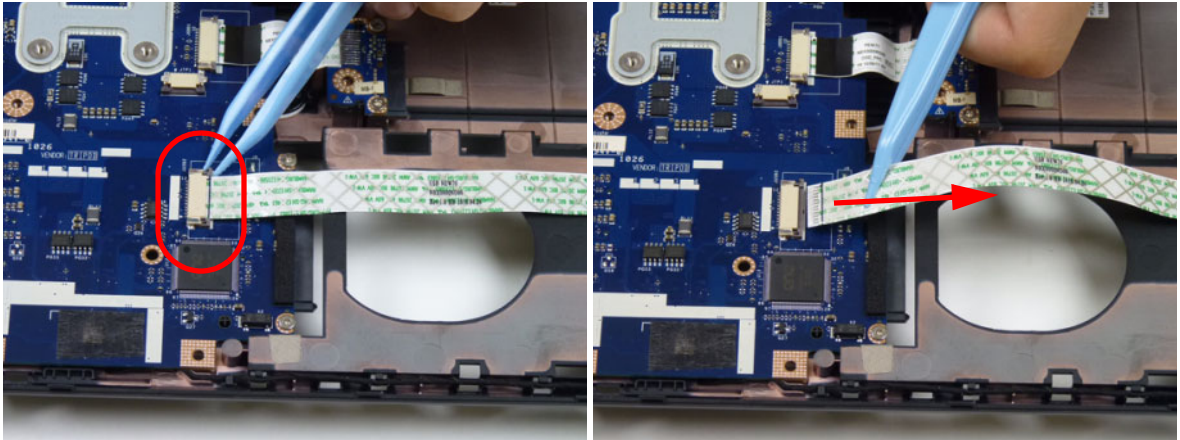


3. Release the FFC locking latch and disconnect the touchpad FFC from the connector.

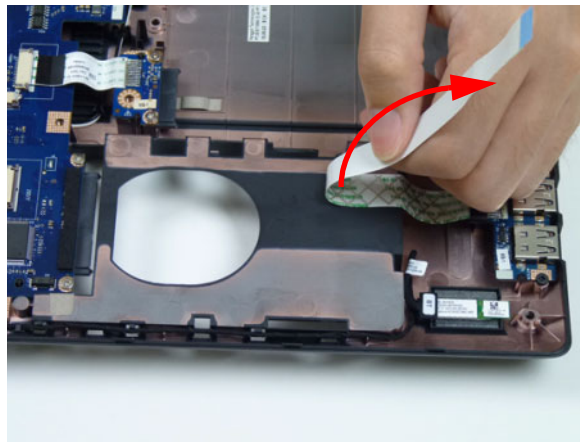


Removing the USB Board

1. See “Removing the Upper Cover” on page 61.
2. Unlock the mainboard to USB cable connector.




3. Lift the FFC to detach the adhesive securing the cable to the lower cover.



4. Remove one (1) screw from the USB board.



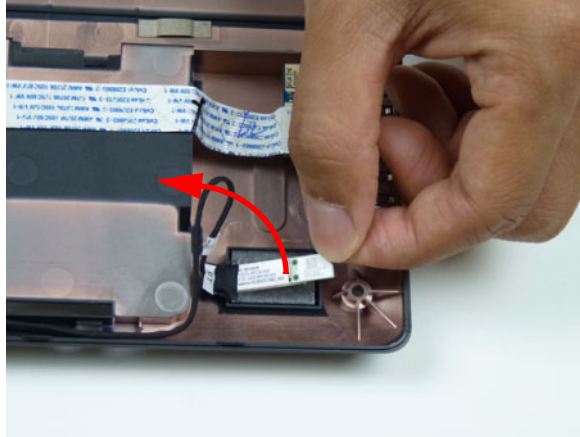
Step	Size	Quantity	Screw Type
USB Board	M2*3	1	

5. Lift the USB board clear of the lower cover.

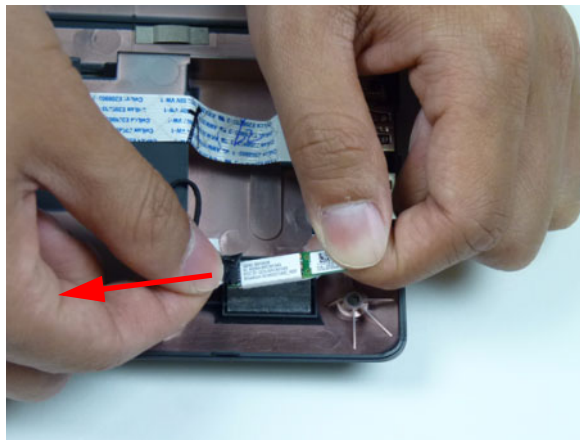


Removing the Bluetooth Module

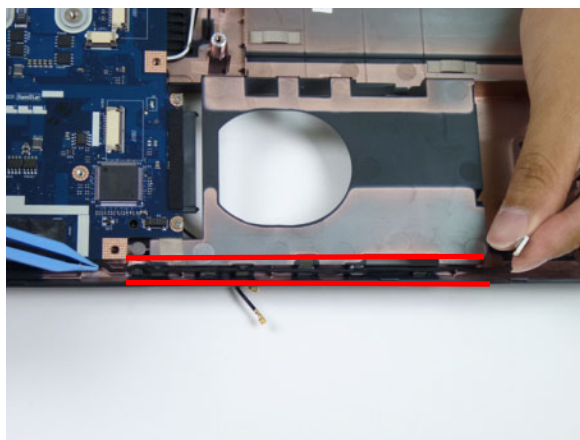
1. See “Removing the Upper Cover” on page 61.
2. Pry the Bluetooth board from the adhesive.



3. Disconnect the mainboard to Bluetooth cable.



4. Lift the Bluetooth cable from the cable guides.

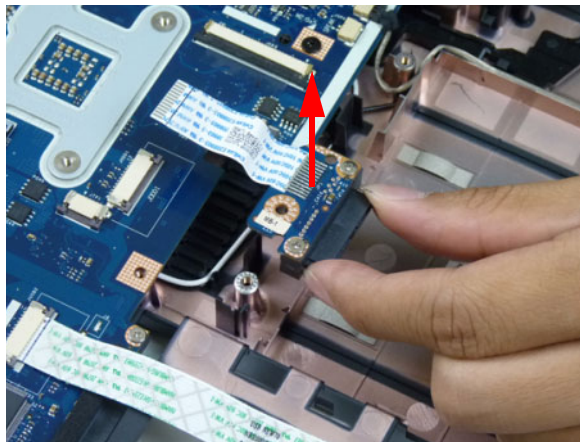


Removing the ODD Connector Board

1. See "Removing the Upper Cover" on page 61.
2. Unlock and disconnect the ODD FFC from the mainboard.

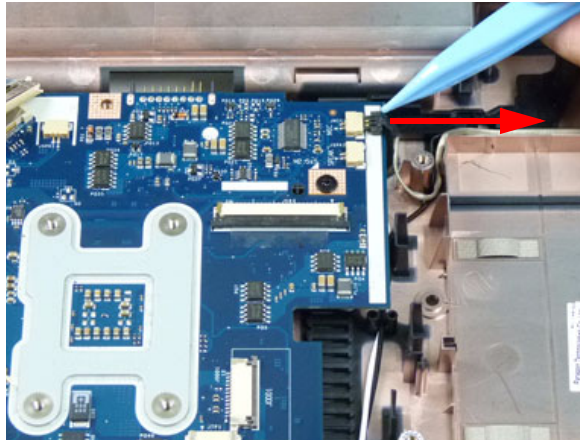


3. Lift the ODD connector board from the lower cover.

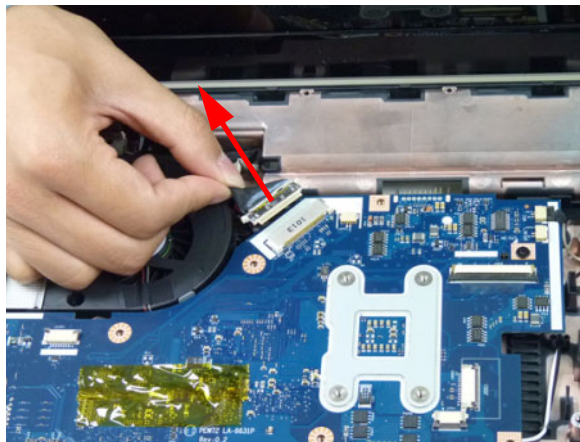


Removing the Mainboard

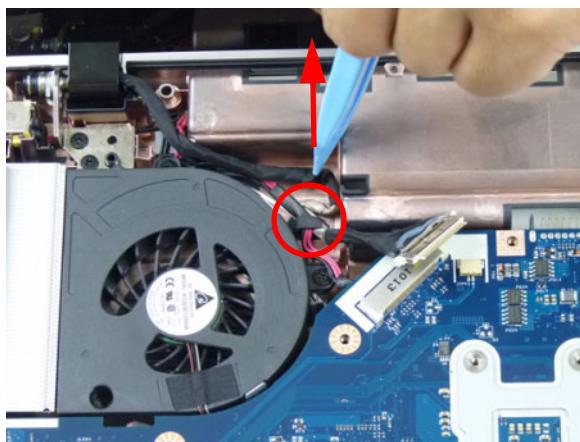
1. See “Removing the Upper Cover” on page 61.
2. Disconnect the microphone cable from the mainboard.



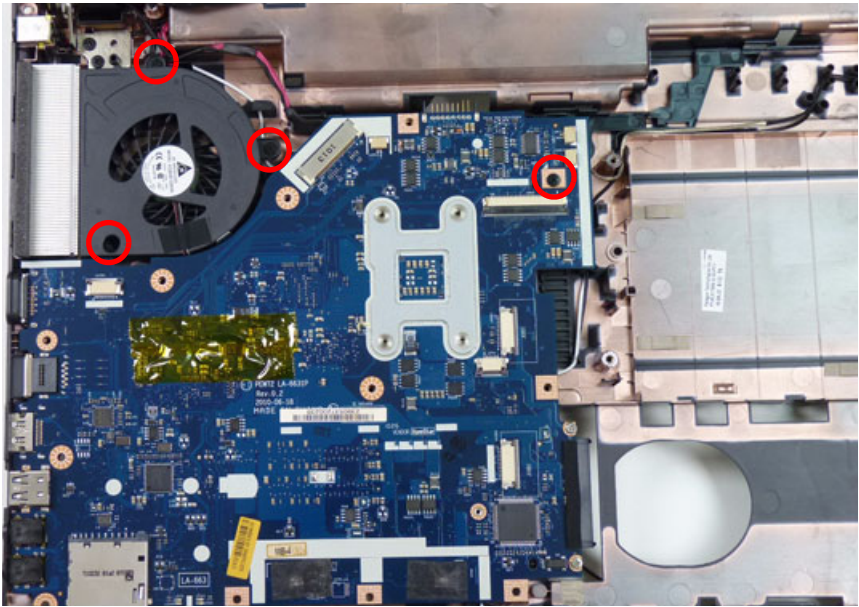
3. Disconnect the LVDS cable from the mainboard.




4. Remove the LVDS cable and the DC-IN cable from the cable guide.

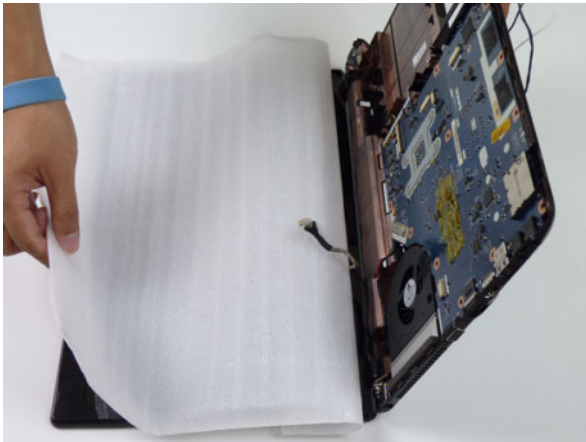


5. Remove the four (4) securing screws from the mainboard.



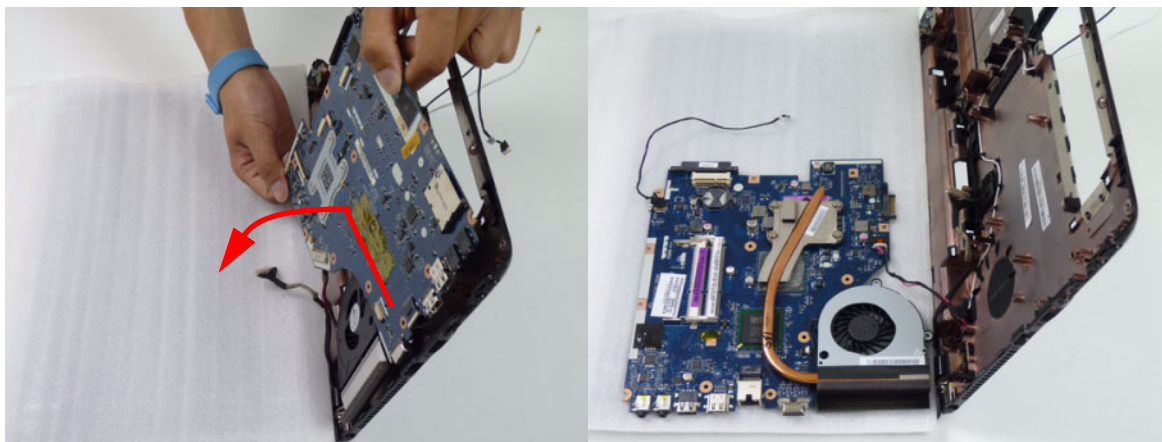
Step	Size	Quantity	Screw Type
Mainboard	M2.5*5	4	

6. To prevent damage, lay the LCD panel flat and cover the panel as shown.

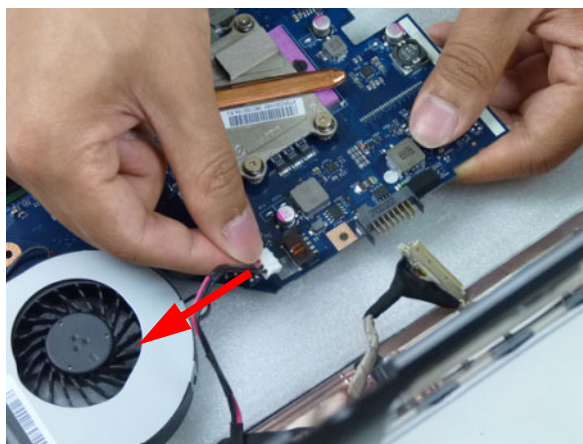


-
7. Carefully turn the mainboard over and place it on a clean, dust-free surface.

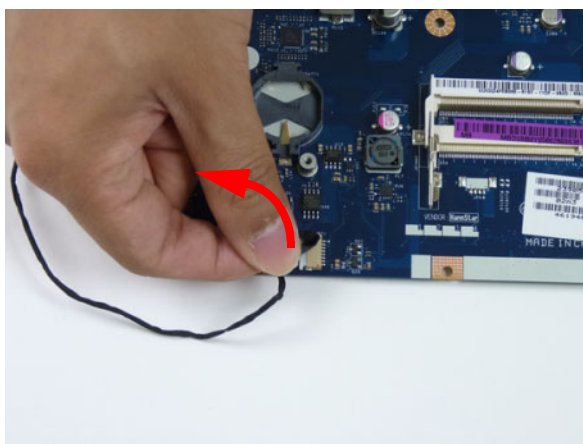
CAUTION: Do not use excessive force when turning the mainboard over as it is still connected to the chassis by the power cable.



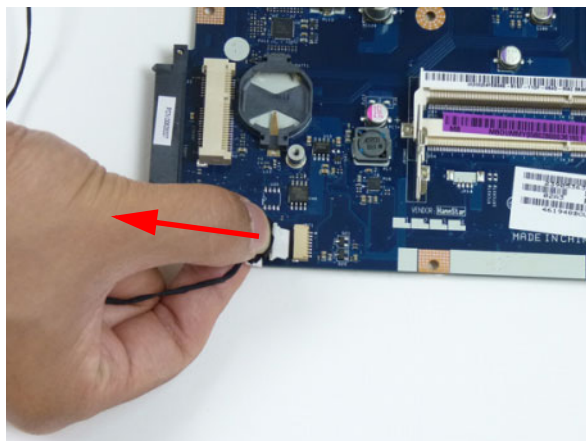
8. Disconnect the power cable.



9. Remove the adhesive tape from the Bluetooth cable.



10. Disconnect the Bluetooth cable from mainboard.

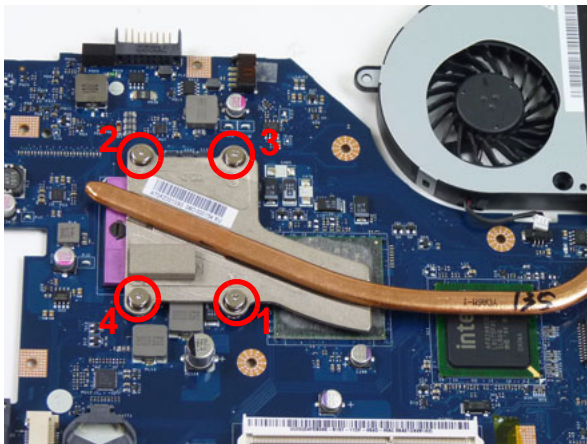



Removing the Thermal Module

- 1. See “Removing the Upper Cover” on page 61.
- 2. Disconnect the fan cable.

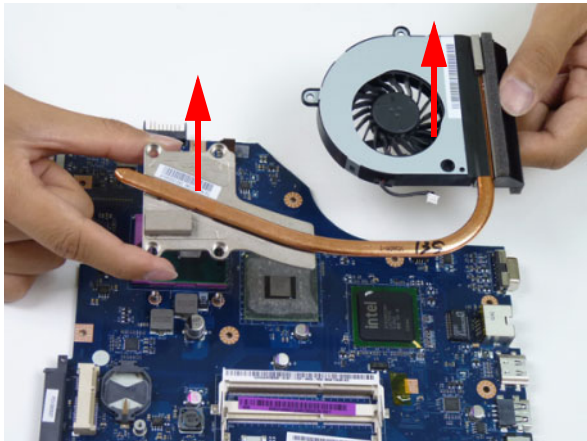


- 3. Remove the four (4) securing screws (in reverse numerical order from screw 4 to 1) from the thermal module.



Step	Size	Quantity	Screw Type
Thermal Module	M1.98*3 (red callouts)	4	

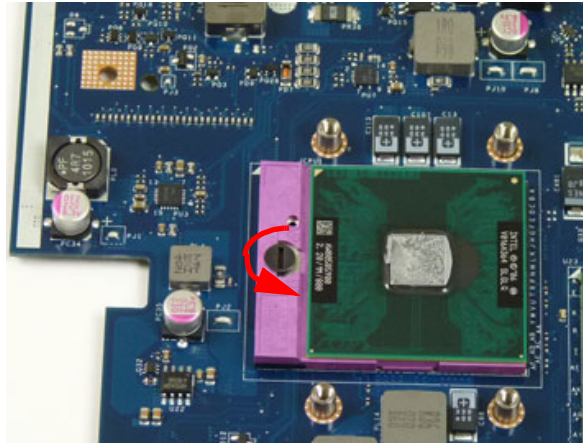
- 4. Carefully lift the thermal module clear of the mainboard.



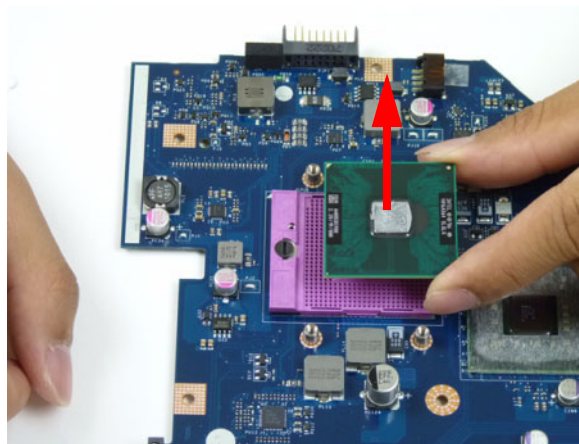
Removing the CPU

IMPORTANT: The pins on the underside of the CPU are very delicate. If they are damaged, the CPU may malfunction. Place the CPU on a clean, dry surface when it is not installed.

1. See “Removing the Thermal Module” on page 78.
2. Using a flat-bladed screw driver, rotate the CPU locking screw 180° counter-clockwise as shown.



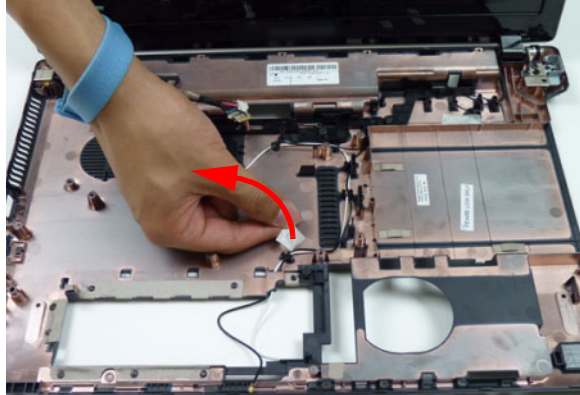
3. Lift the CPU clear of the socket as shown.



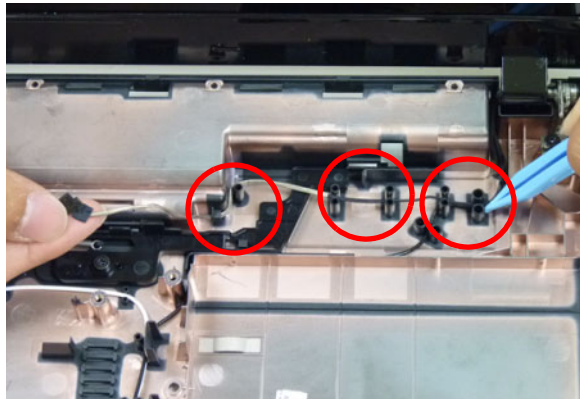
NOTE: Circuit boards >10 cm² have been highlighted with a yellow rectangle as shown in the previous image. Please detach the Circuit board and follow local regulations for disposal.

Removing the LCD Assembly

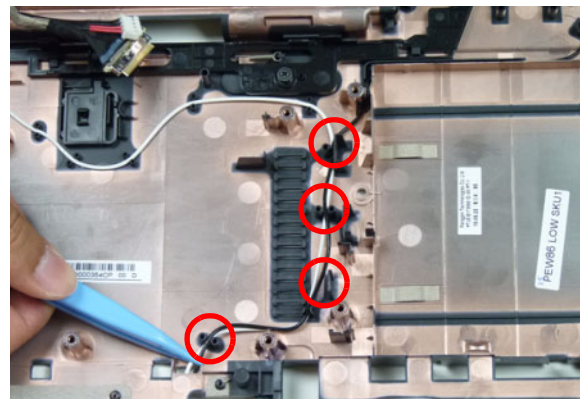
1. See “Removing the Mainboard” on page 74.
2. Remove the adhesive tape securing the antennas to the lower cover.



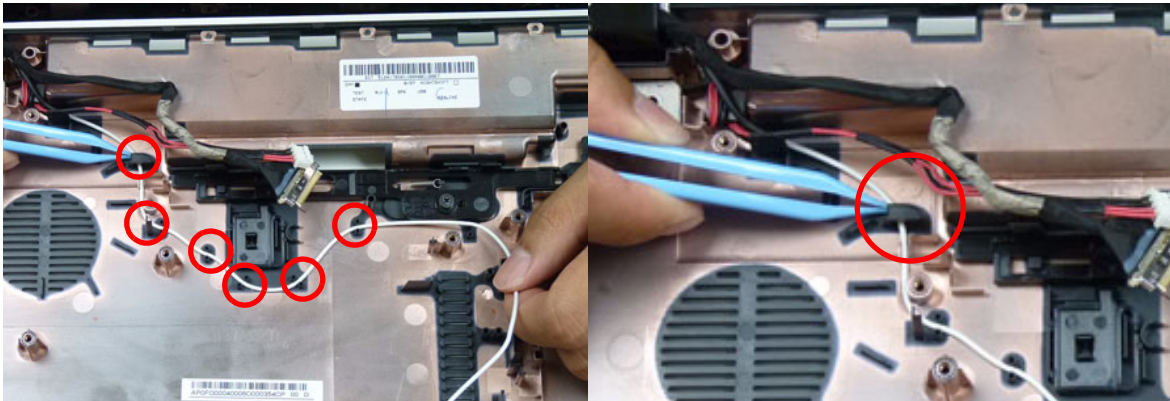
3. Free the microphone cable from the cable guides as shown.



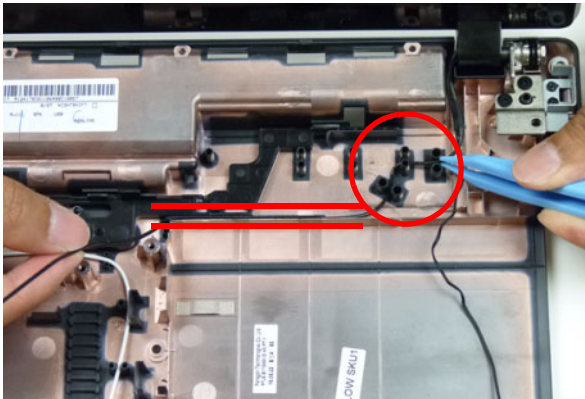
4. Free the black and white antenna cables from the cable guides as shown



5. Continue removing the white antenna cable from the cable guides.




6. Continue removing the black antenna cable from the cable guides.

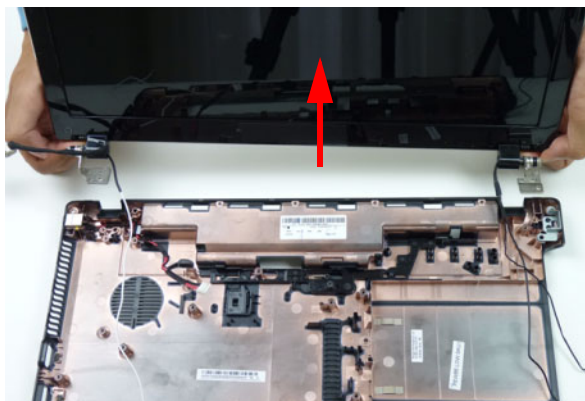


7. Remove four (4) screws from the LCD assembly.



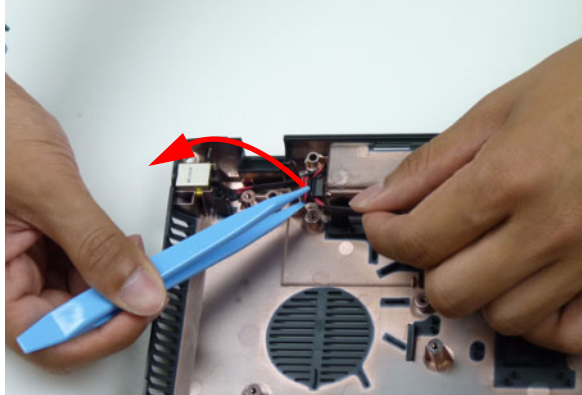
Step	Size	Quantity	Screw Type
LCD Assembly	M2.5*8	4	

-
8. Remove the LCD assembly from the lower cover.

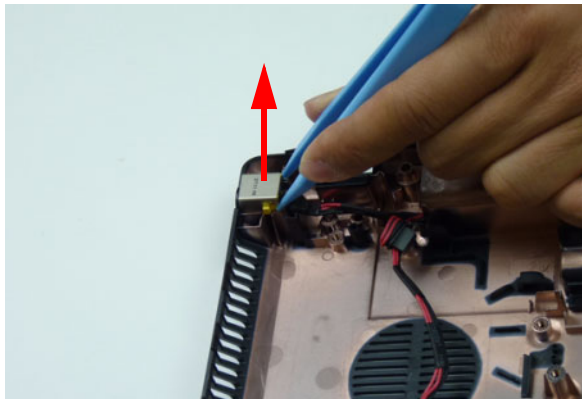


Removing the DC-IN Assembly

1. See “Removing the LCD Assembly” on page 80.
2. Lift the DC-IN cable from the lower cover.

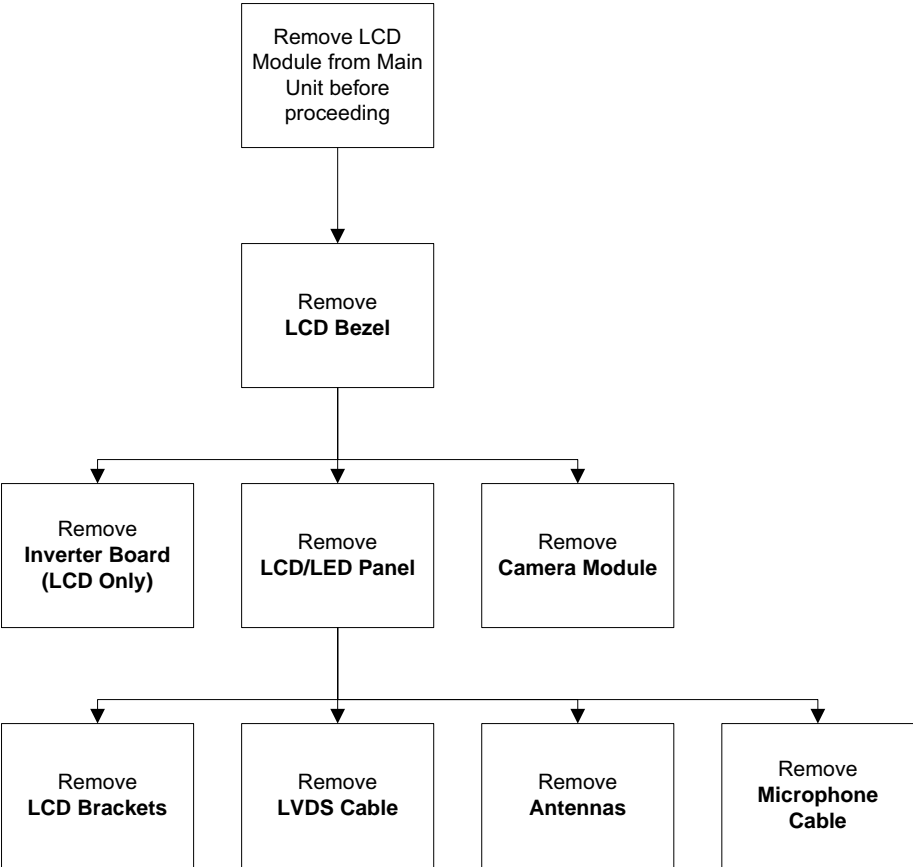


3. Lift the DC-IN assembly from the lower cover.



LCD Module Disassembly Process

LCD Module Disassembly Flowchart




Screw List

Step	Screw	Quantity	Part No.
LCD Bezel	M2.5*6	2	86.R4F02.003
Inverter Board (LCD Only)	M2.5*5	1	86.R4F02.001
LCD/LED Panel	M2.5*5	4	86.R4F02.001
LCD Brackets	M2*3	6	86.R4F02.004

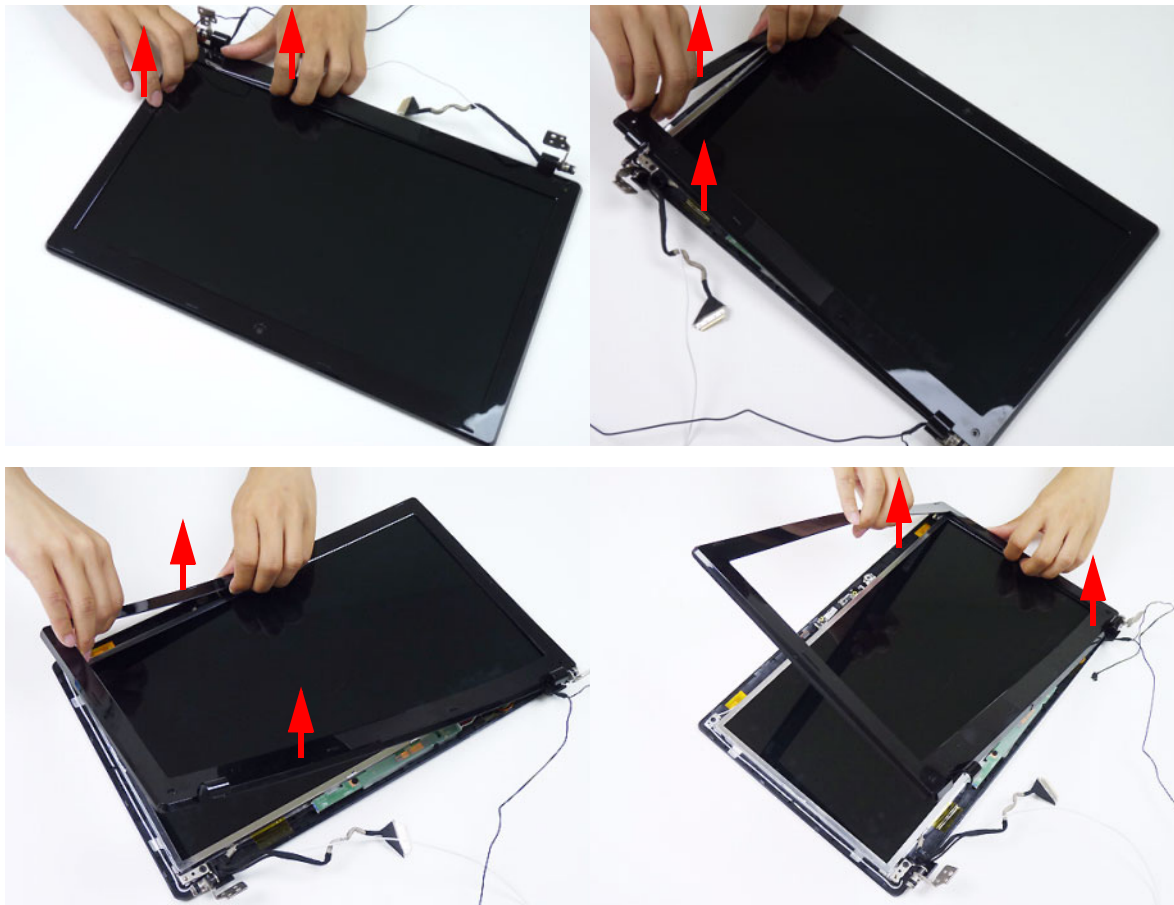
Removing the LCD Bezel

- 1. See “Removing the LCD Bezel” on page 85.
- 2. Remove the two bezel screw caps and screws.



Step	Size	Quantity	Screw Type
LCD Bezel	M2.5*6	2	

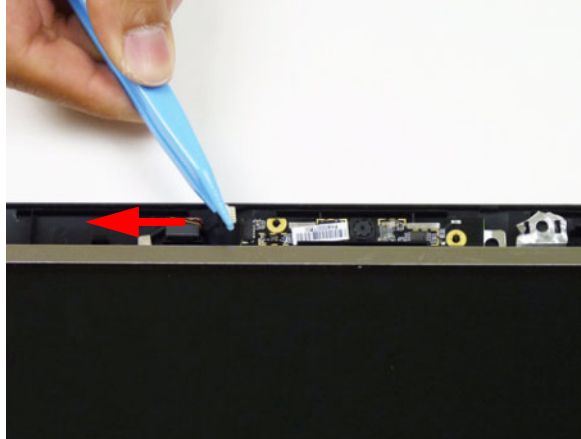
- 3. Starting from the bottom edge of the bezel, pry the bezel upwards and away from the panel. Work along the side toward the top of the bezel, prying the covers apart. Continue along the top edge and down the other side to remove the bezel.



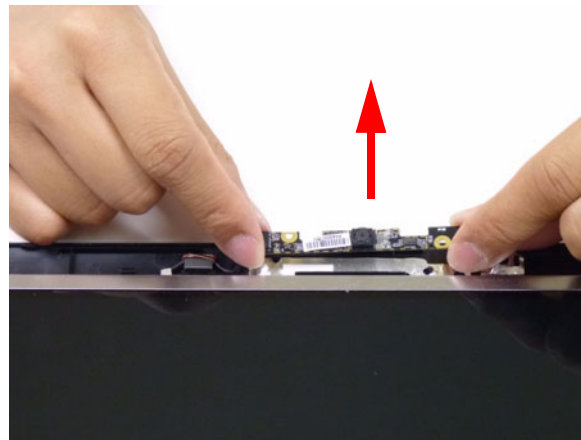
NOTE: If necessary, use a pry to lift up the outside edges of the bezel.

Removing the Camera Module

1. See “Removing the LCD Bezel” on page 85.
2. Locate the camera module at the top of the LCD module and disconnect the camera cable.

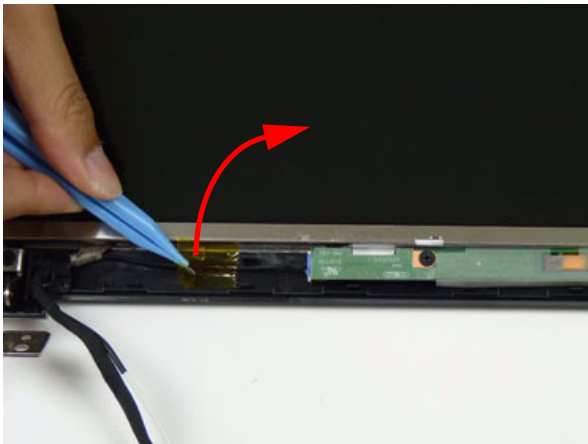


3. Remove the camera from the LCD cover.




Removing the Inverter Board

- 1. See “Removing the LCD Bezel” on page 85.
- 2. Remove the adhesive tape securing the inverter board cable to the LCD cover.

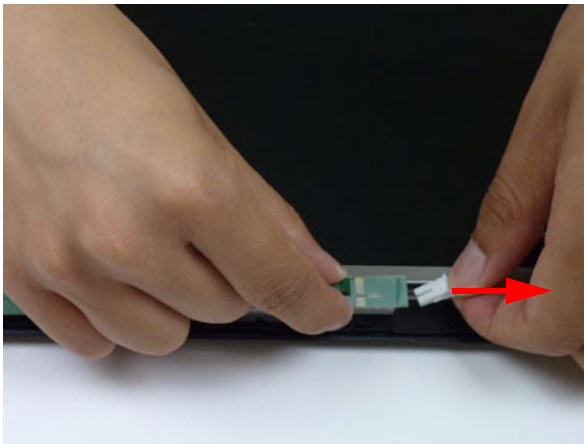


- 3. Remove one (1) screw from the inverter board.

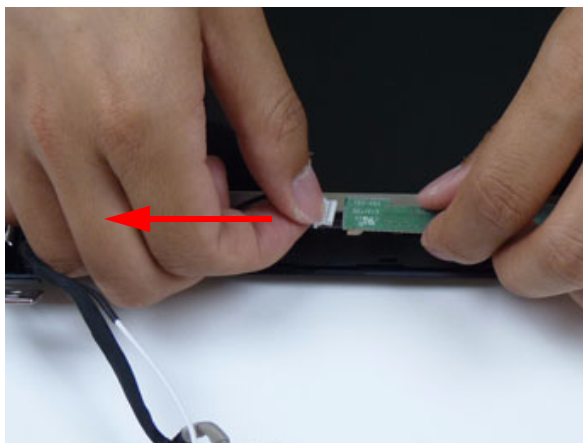


Step	Size	Quantity	Screw Type
Inverter Board	M2.5*5	1	

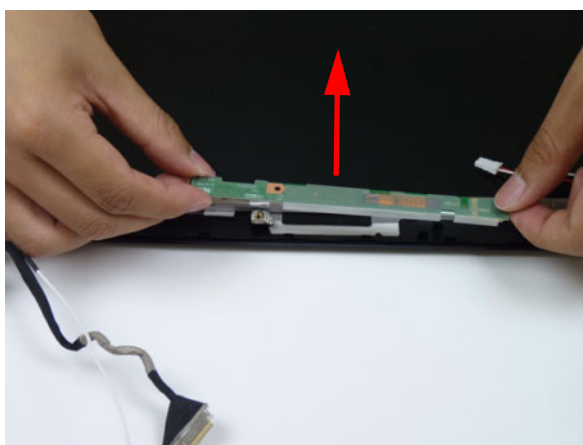
- 4. Disconnect the inverter board cable going to the LCD panel.



-
5. Disconnect the inverter board cable going to the LVDS cable.




6. Lift the inverter board from the LCD cover.



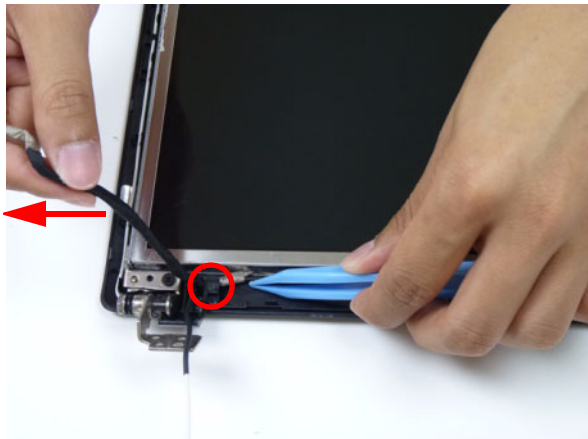
Removing the LCD/LED Panel

- 1. See “Removing the LCD Bezel” on page 85.
- 2. Remove the four (4) securing screws from the LCD/LED panel.

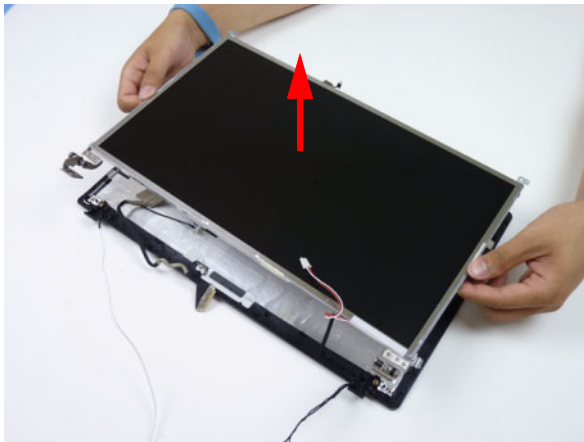


Step	Size	Quantity	Screw Type
LCD/LED Panel	M2.5*5	4	

- 3. Remove the cable from the cable guide.




- 4. Lift the LCD/LED panel clear of the module.



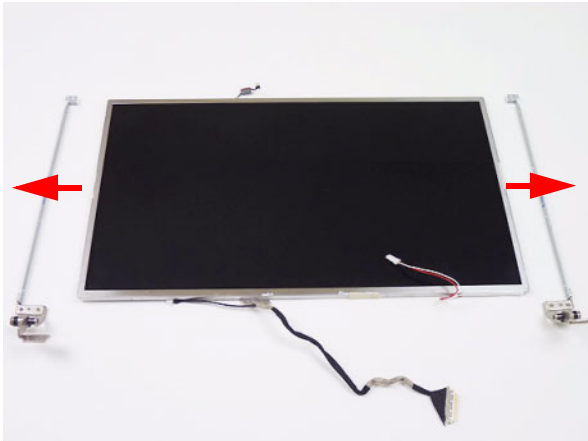
Removing the LCD Brackets

- 1. See "Removing the LCD/LED Panel" on page 89.
- 2. Remove the six (6) securing screws (three on each side) from the LCD brackets.



Step	Size	Quantity	Screw Type
LCD Brackets	M2*3	6	

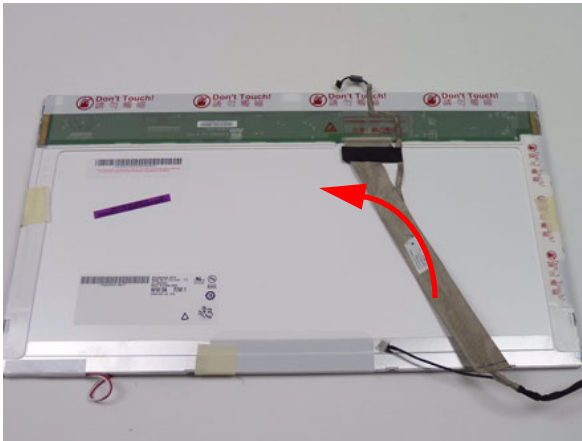
- 3. Remove the LCD brackets by pulling away from the LCD panel.



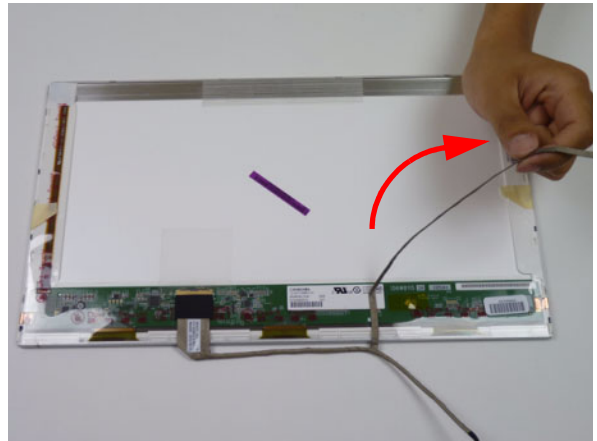
Removing the LVDS cable

1. See "Removing the LCD/LED Panel" on page 89.
2. Remove the LVDS cable from the back of the panel.

LCD

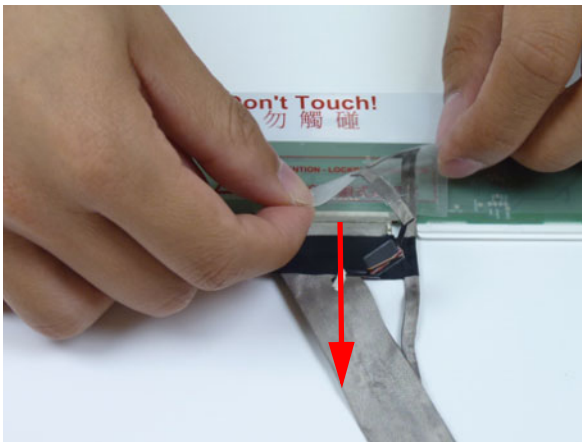


LED

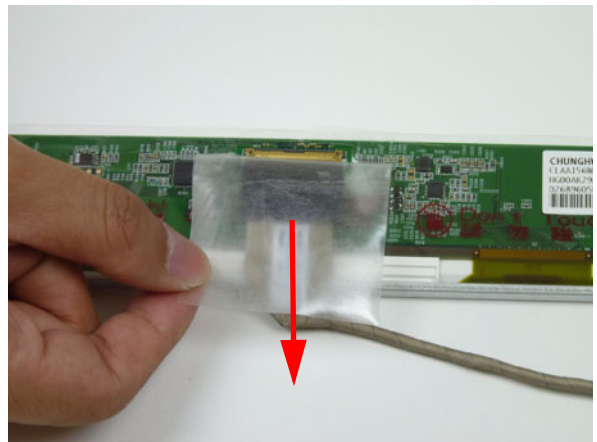


3. Peel back the mylar securing the LVDS cable.

LCD



LED

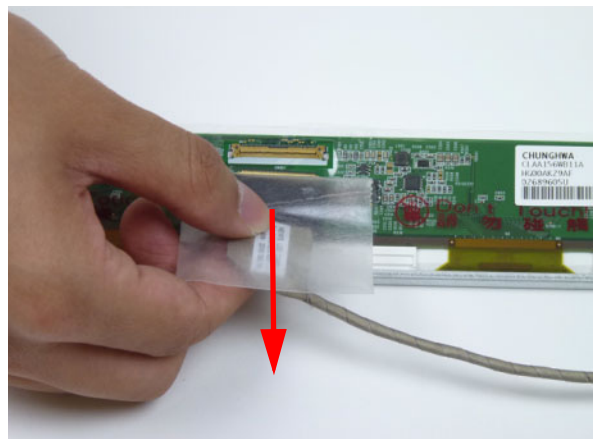


4. Disconnect the LVDS cable and remove it from the panel.

LCD

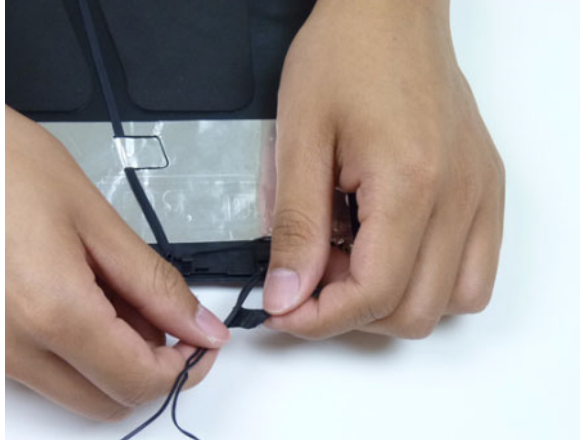


LED

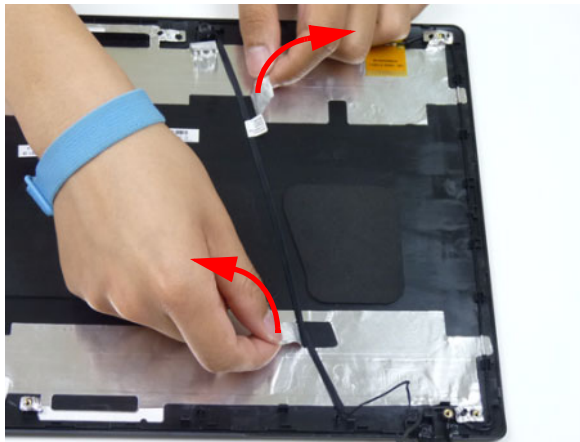


Removing the Microphone Cable

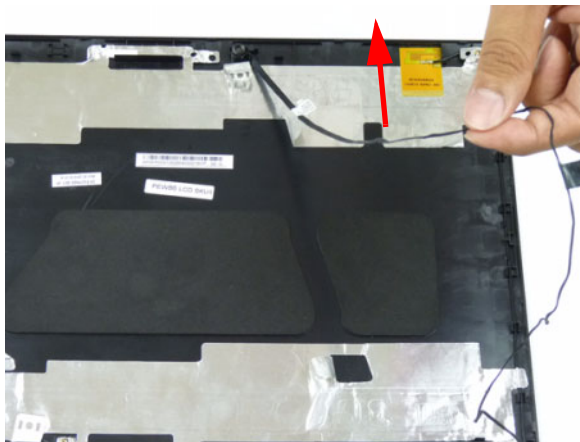
1. See "Removing the LCD/LED Panel" on page 89.
2. Remove the adhesive securing the microphone cable and antenna.



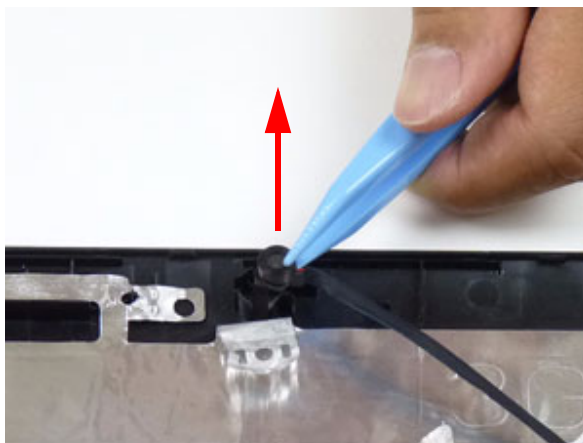
3. Peel back the foil tabs and remove the microphone cable from the cable channel.



4. Lift the microphone set clear of the panel.

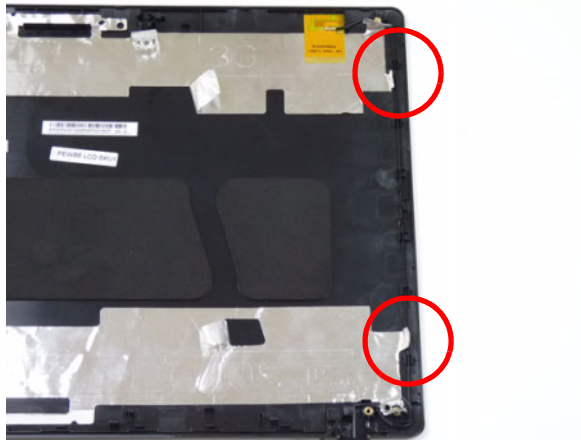


-
5. Lift the microphone set clear of the panel.

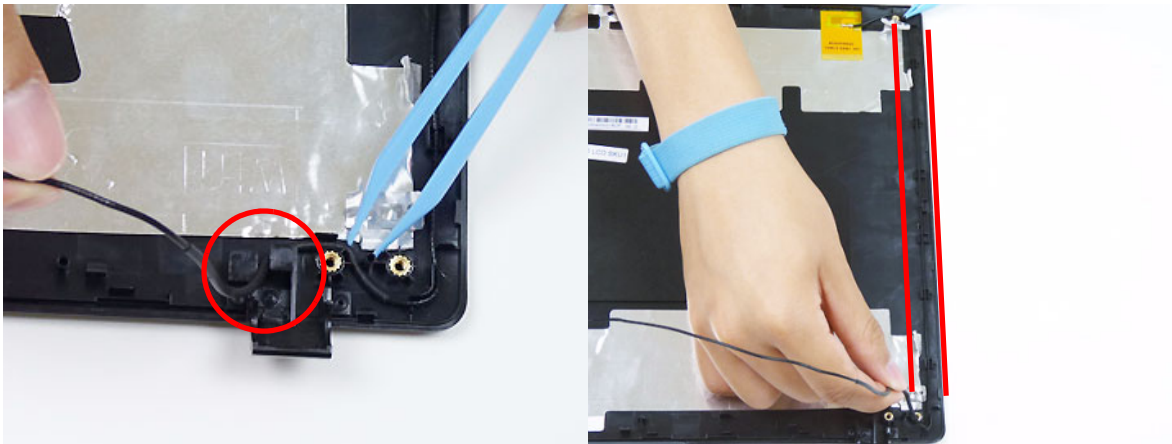


Removing the Antennas

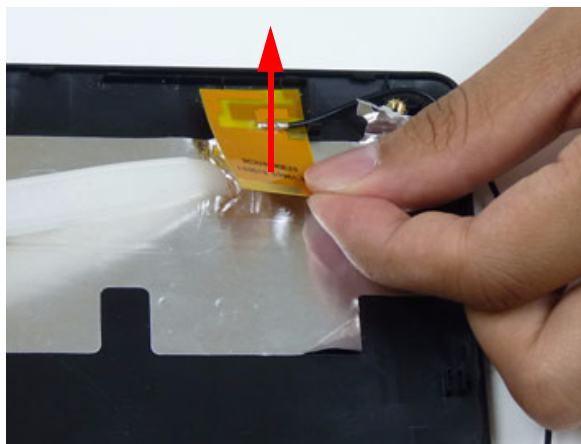
1. See "Removing the LCD/LED Panel" on page 89.
2. Peel back the foil tabs securing the antenna to the LCD cover.



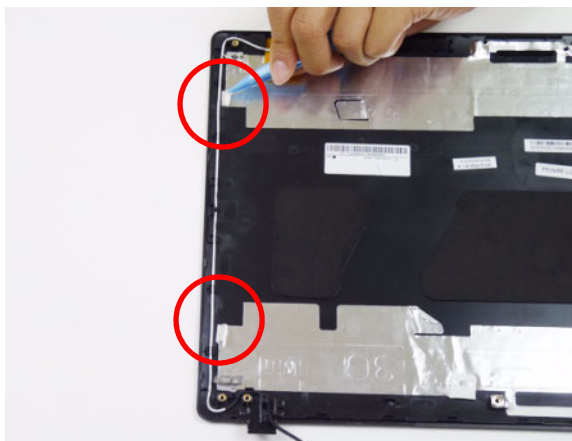
3. Remove the cable from the cable guides.



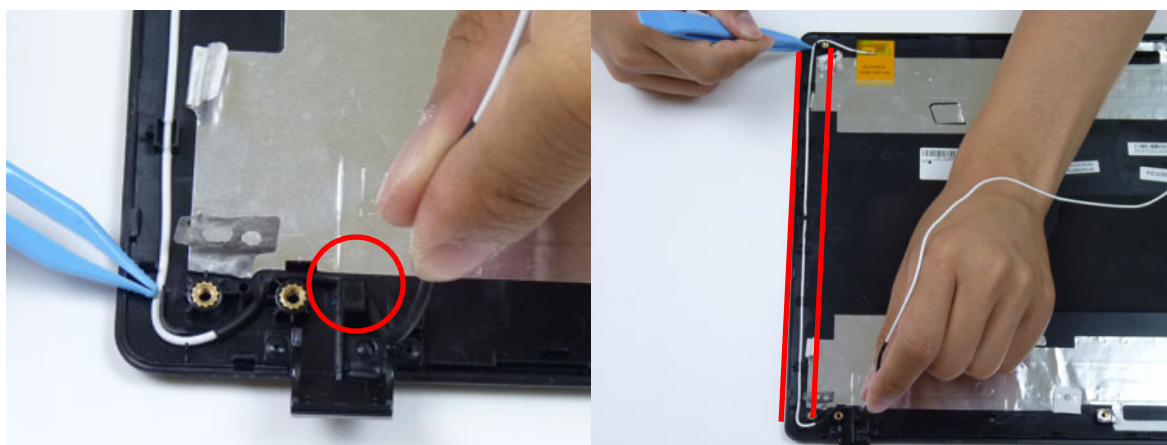
4. Using a flat plastic tool, pry the antenna assembly clear of the device.



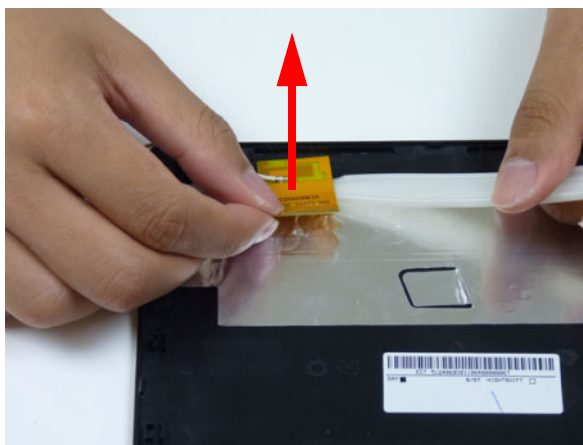
-
5. Peel back the foil tabs securing the antenna to the LCD cover.



6. Remove the white antenna from the cable guides.



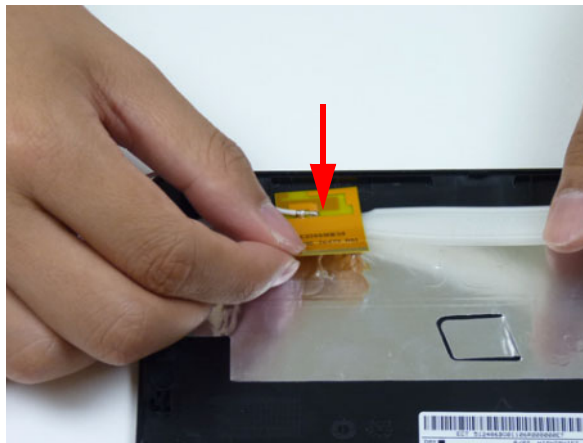
7. Using a flat plastic tool, pry the antenna assembly clear of the device.



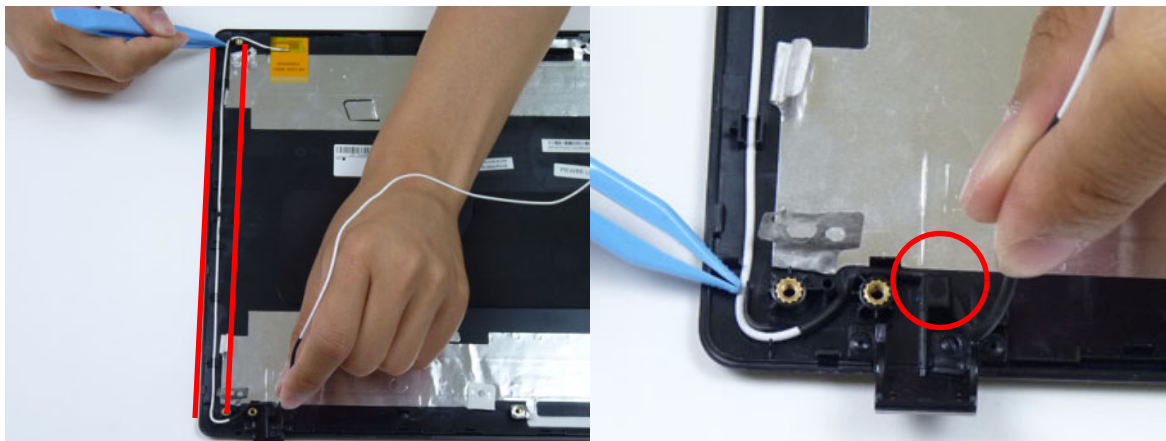
LCD Module Reassembly Procedure

Replacing the Antennas

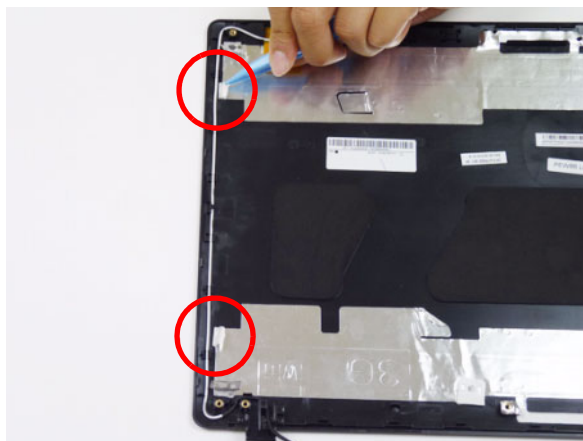
1. Adhere the white antenna assembly to the LCD cover.



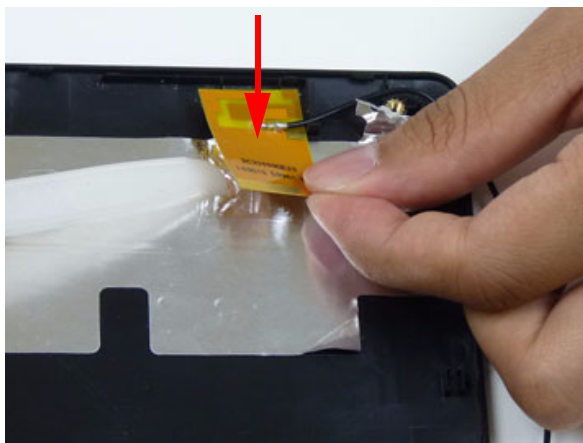
2. Run the cable along the cable guides.



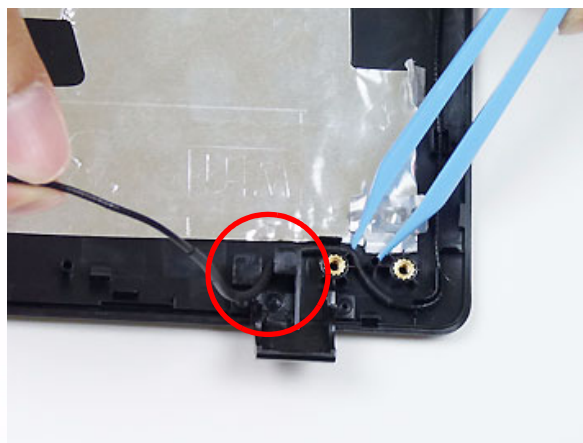
3. Fold over the foil tabs to secure the cable in place.



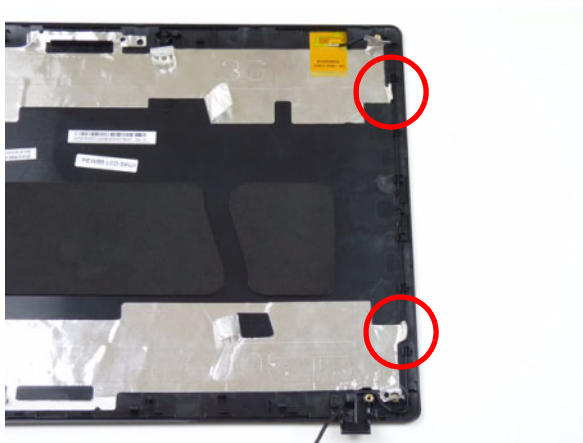
-
4. Adhere the black antenna assembly on the LCD cover.



5. Run the cable along the cable channel.

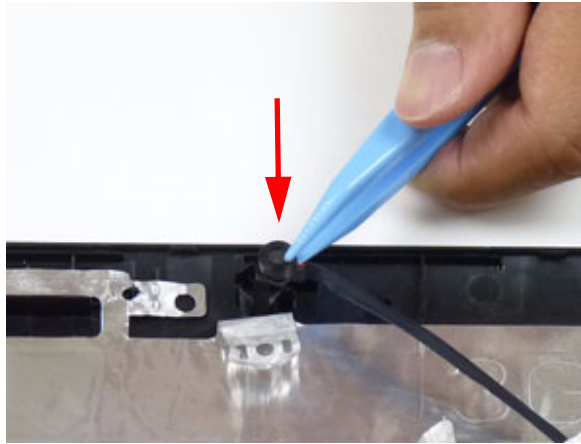


6. Fold over the foil tabs to secure the cable in place.

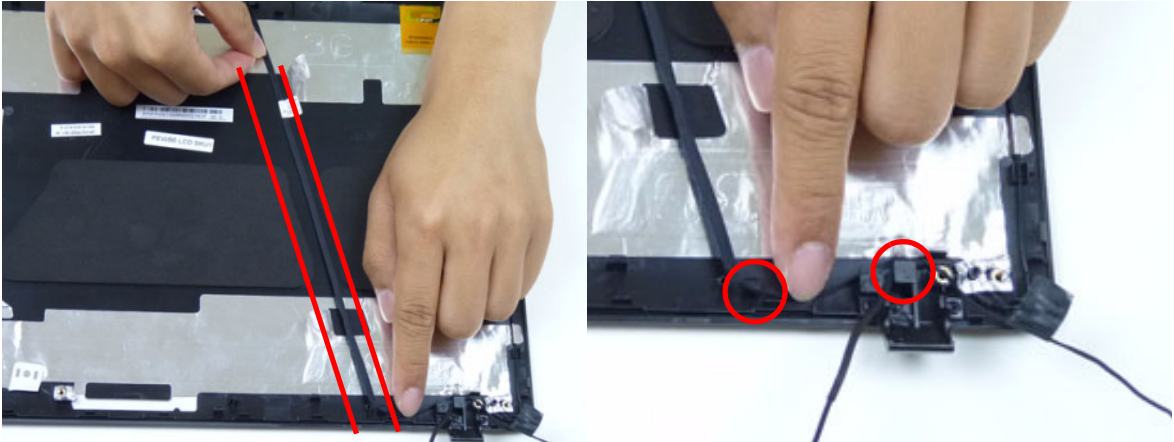


Replacing the Microphone Cable

1. Place the microphone set in the panel.

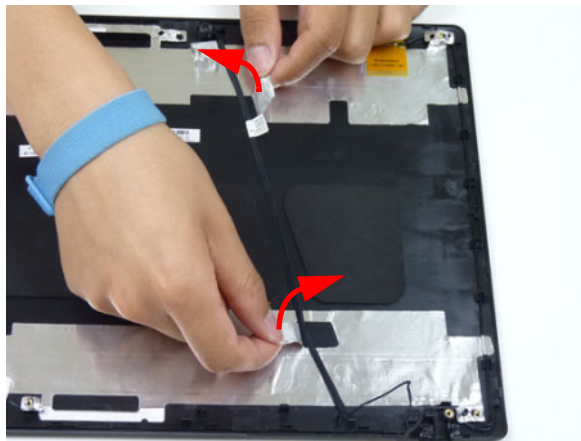


2. Run the cable along the cable channel.

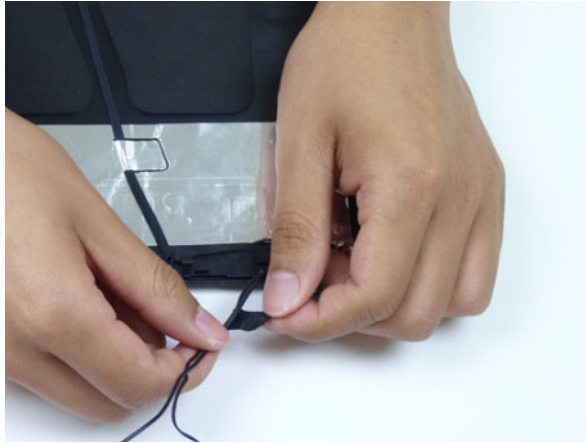


IMPORTANT: Ensure that the cable runs between the callouts to avoid trapping when the panel is replaced in the LCD module.

3. Fold over the foil tabs and continue running the microphone cable along the cable channel indicated between the red callouts.



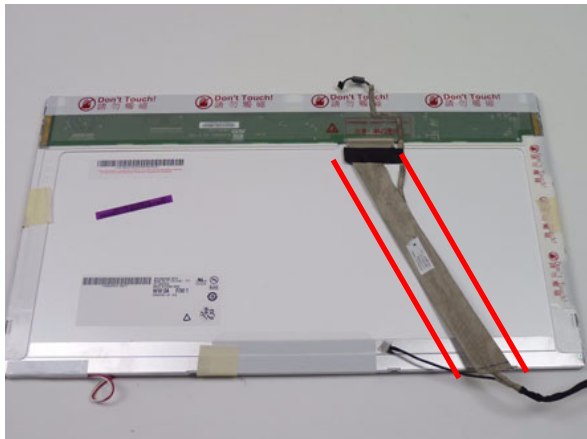
-
4. Replace the adhesive tape securing the microphone cable and the antenna together.



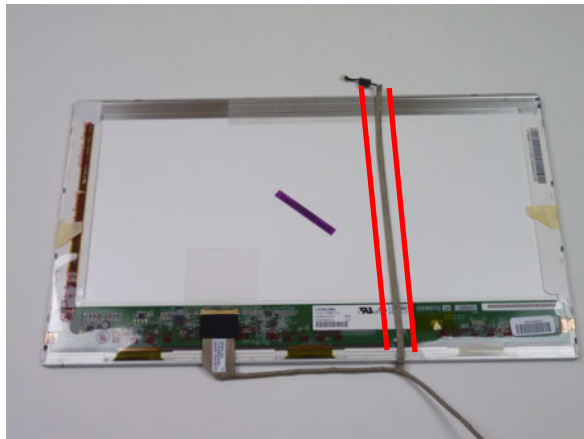
Replacing the LVDS Cable

5. Place the LVDS cable onto the back of the panel.

LCD

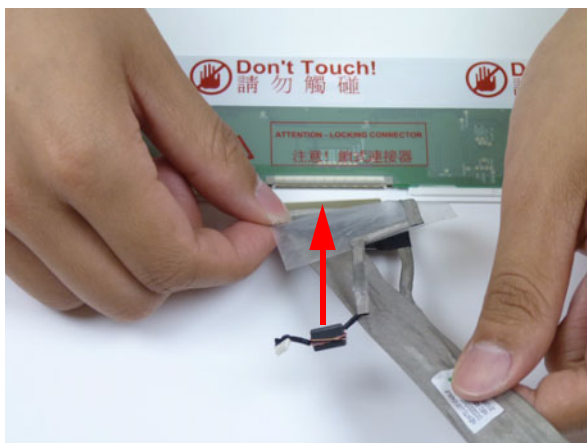


LED

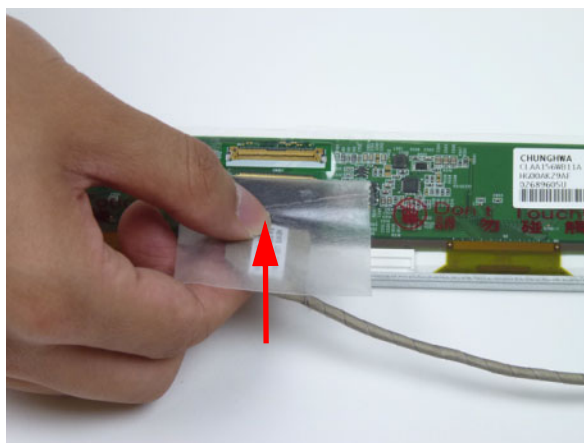


6. Connect the LVDS cable to the panel.

LCD

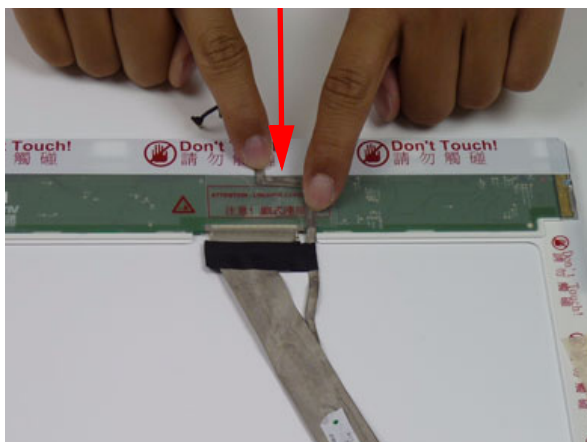


LED

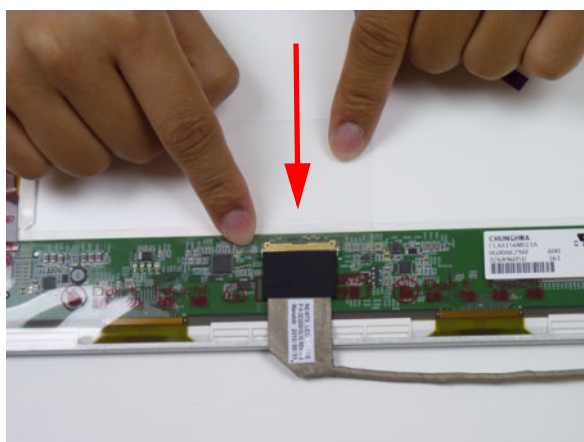


7. Replace the mylar to secure the LVDS cable.

LCD

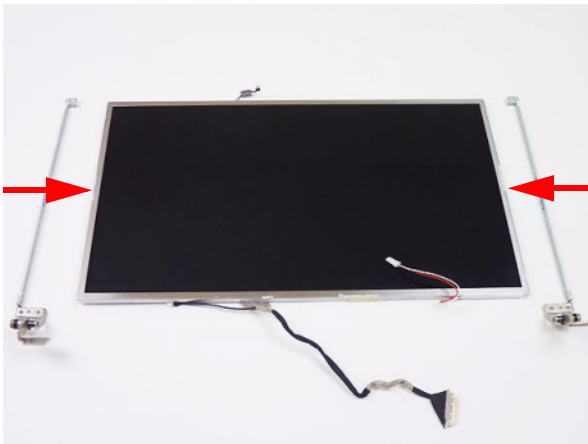


LED

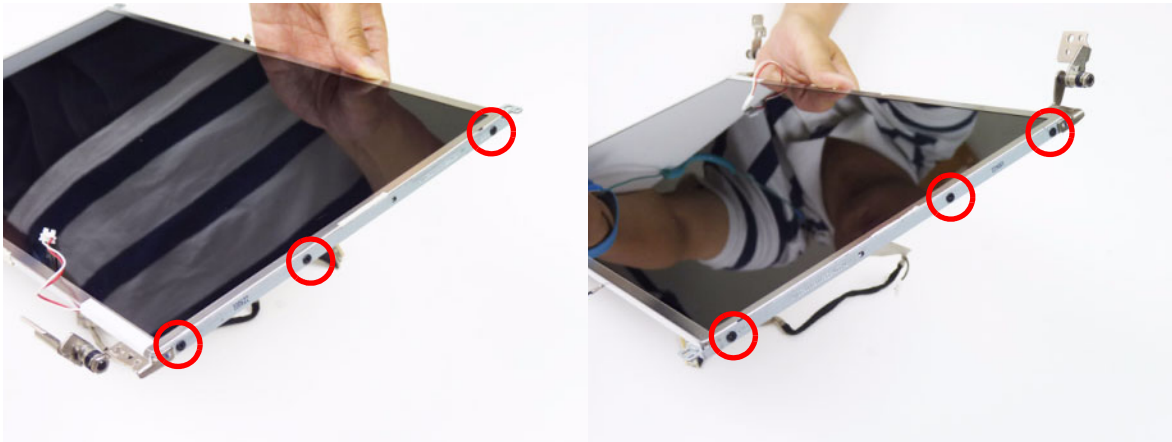



Replacing the LCD Brackets

1. Replace the LCD brackets to the LCD panel.



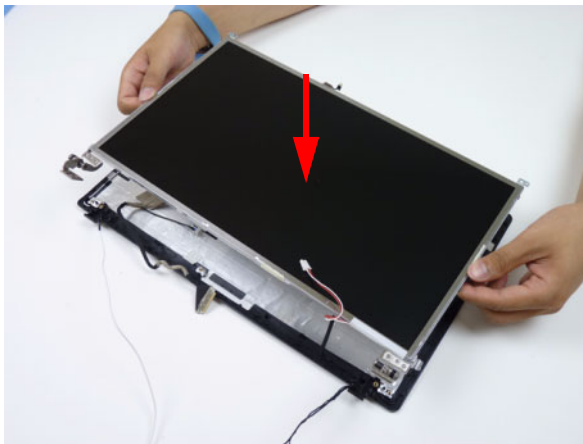
2. Replace the six (6) securing screws (three on each side) to the LCD panel brackets.



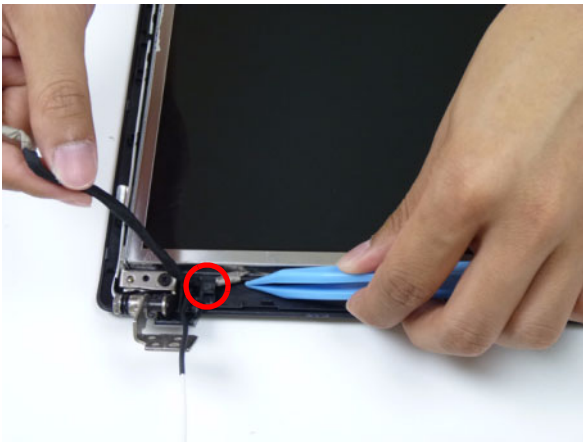
Step	Size	Quantity	Screw Type
LCD Brackets	M2*3	6	

Replacing the LCD/LED Panel

1. Place the LCD panel in the LCD cover.




2. Run the cable along the guide in the LCD cover as shown.



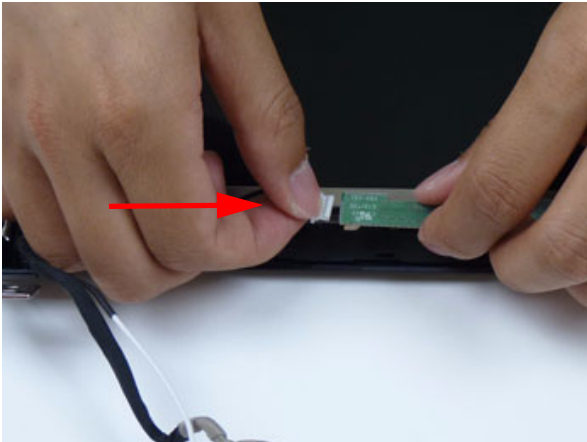
3. Replace the four (4) securing screws to the LCD panel.



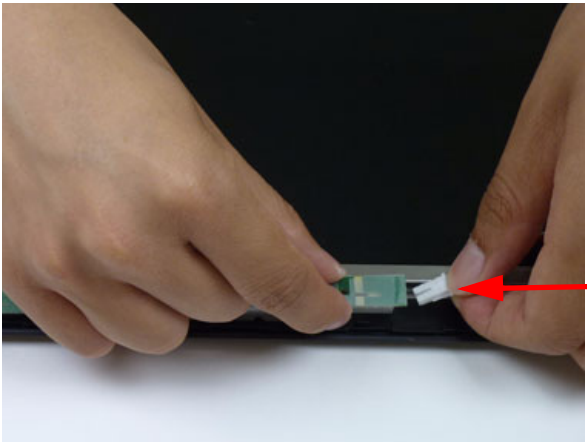
Step	Size	Quantity	Screw Type
LCD/LED Panel	M2.5*5	4	

Removing the Inverter Board

1. Connect the inverter board cable going to the LVDS cable.




2. Connect the inverter board cable going to the LCD panel.

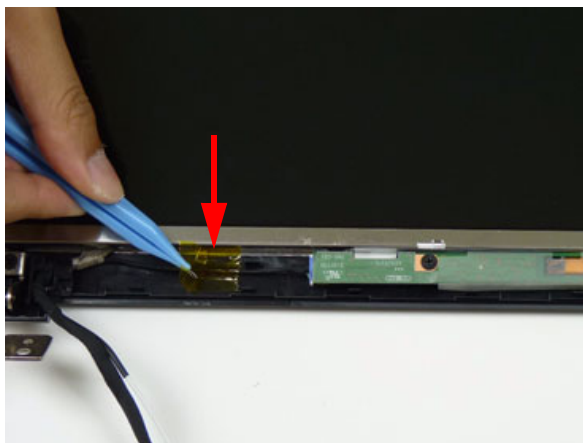


3. Place the inverter board onto the LCD cover and replace one (1) screw from the inverter board.



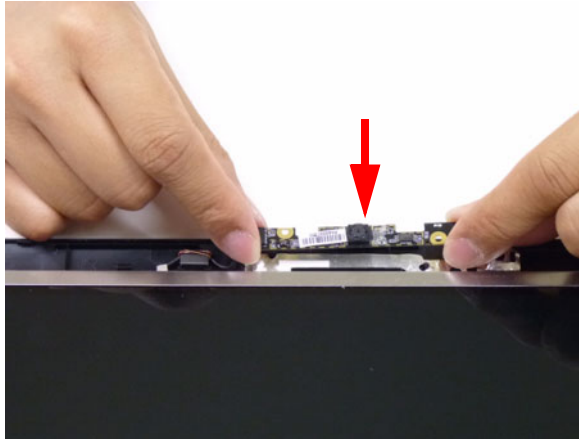
Step	Size	Quantity	Screw Type
Inverter Board	M2.5*5	1	

-
4. Replace the adhesive tape securing the inverter board cable to the LCD cover.

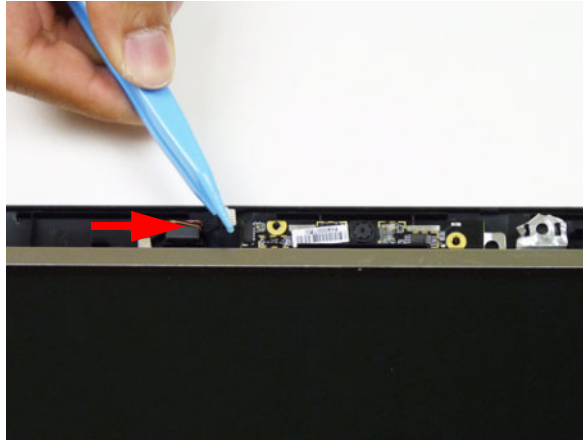


Replacing the Camera Module

1. Place the camera module in the LCD cover.



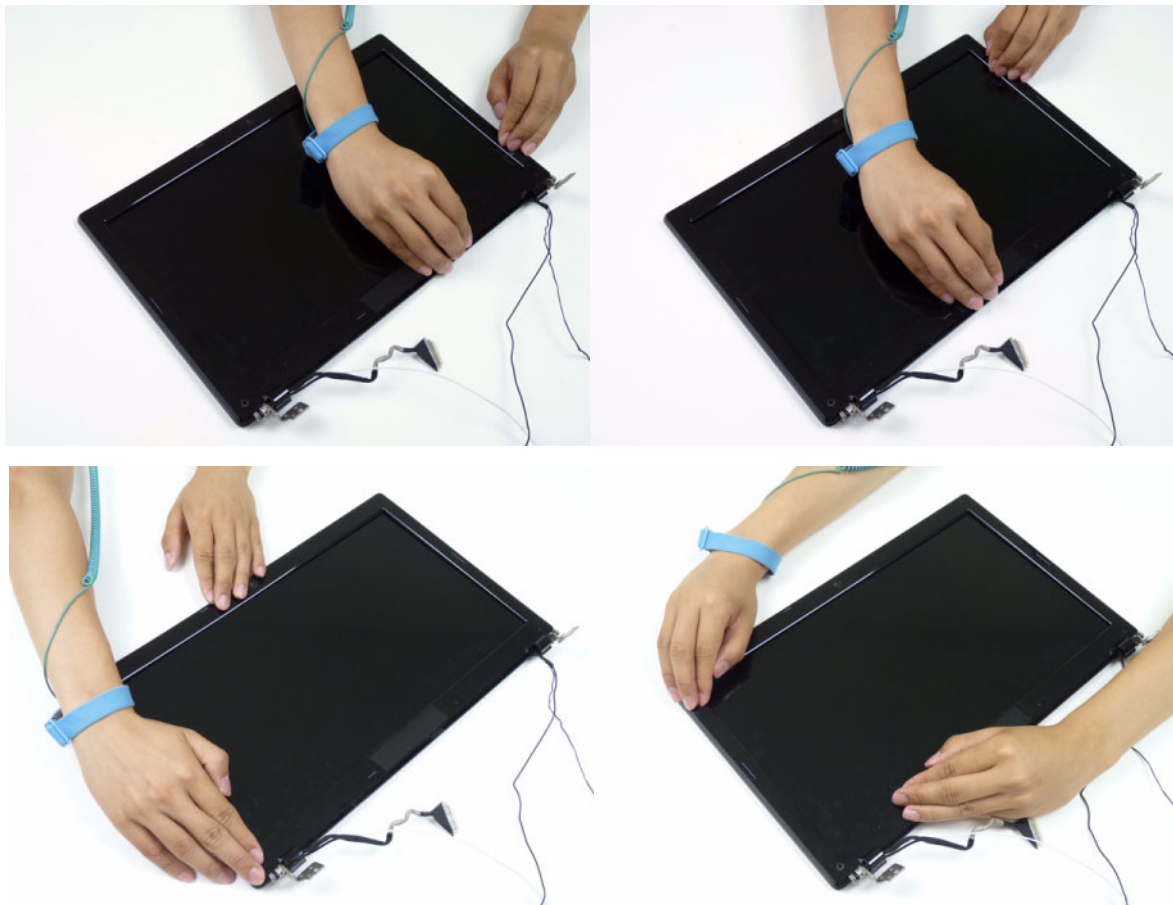
2. Connect the camera cable.



Replacing the LCD Bezel


1. Replace the bezel and press down until there are no gaps between the bezel and the LCD cover.

IMPORTANT: Ensure that the LCD cables pass through the hinge wells and are not trapped by the bezel.



2. Replace the two (2) screws and screw caps.

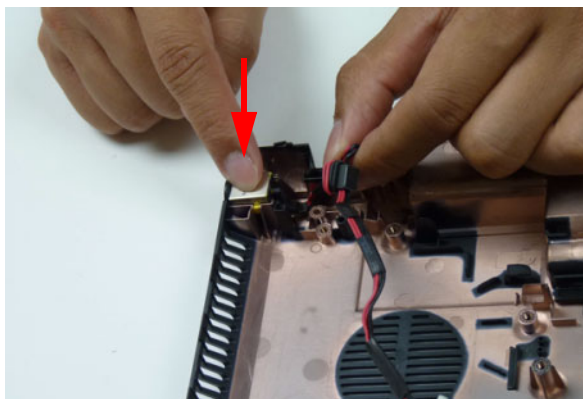


Step	Size	Quantity	Screw Type
LCD Bezel	M2.5*6	2	

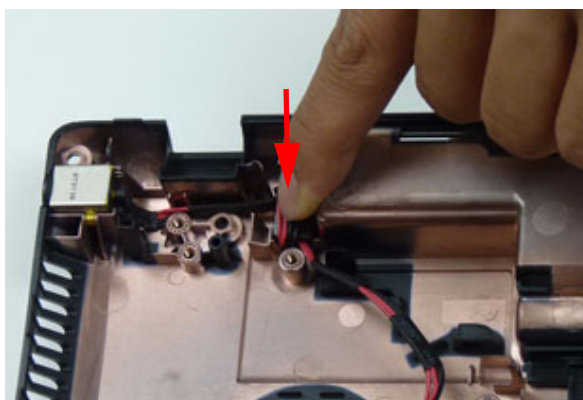
Main Module Reassembly Procedure

Replacing the DC-IN Assembly

1. Place the DC-IN assembly into the lower cover.

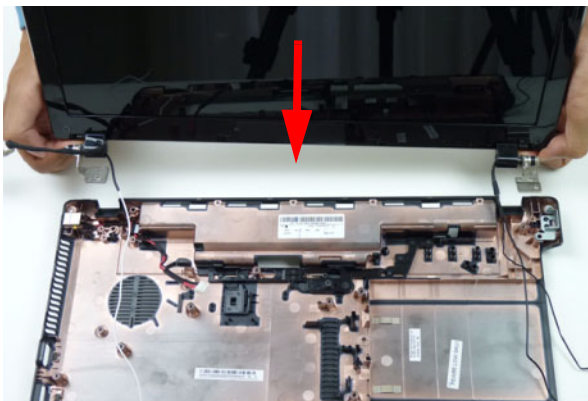


2. Place the DC-IN cable into the lower cover as shown.




Replacing the LCD Assembly

- 1. Place the LCD assembly on the lower cover.

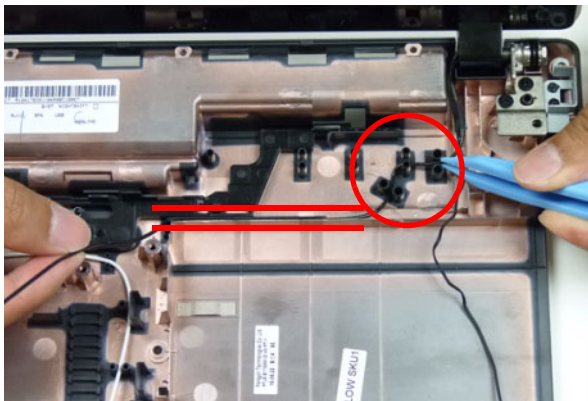


- 2. Replace four (4) screws to secure the LCD assembly.

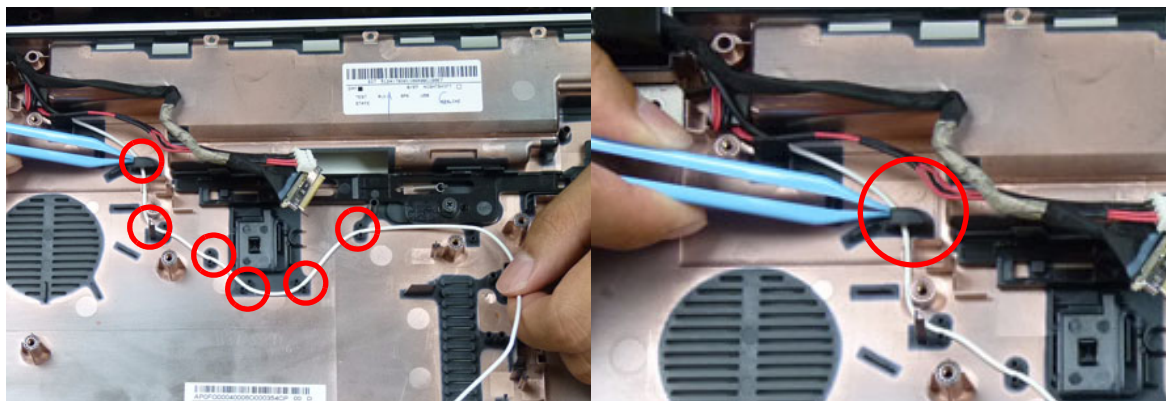


Step	Size	Quantity	Screw Type
LCD Assembly	M2.5*8	4	

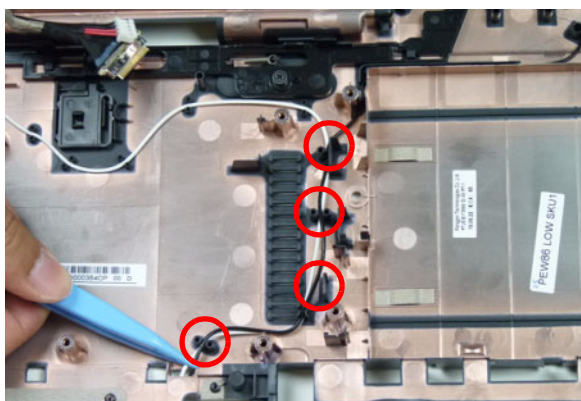
- 3. Place the black antenna cable into the cable guides.



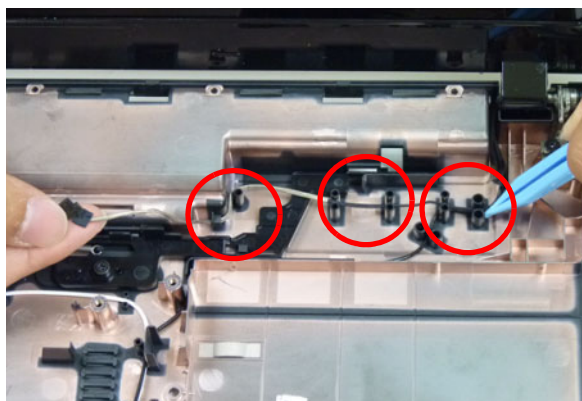
4. Place the white antenna cable into the cable guides.



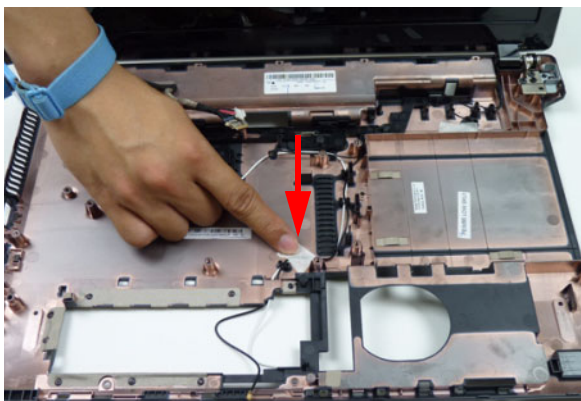
5. Continue replacing the black and white antenna cables into the cable guides as shown



6. Place the microphone cable into the cable guides as shown.



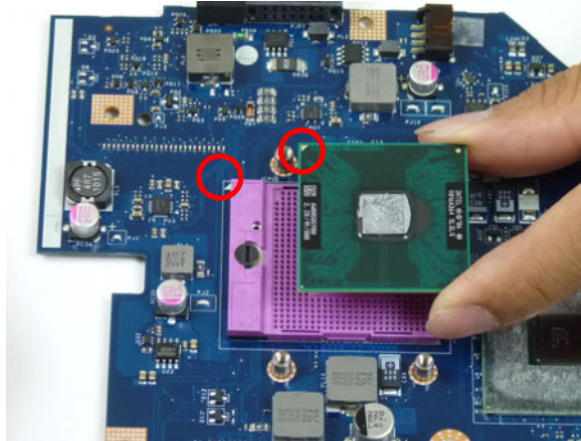
-
7. Replace the adhesive tape to secure the antennas to the lower cover.



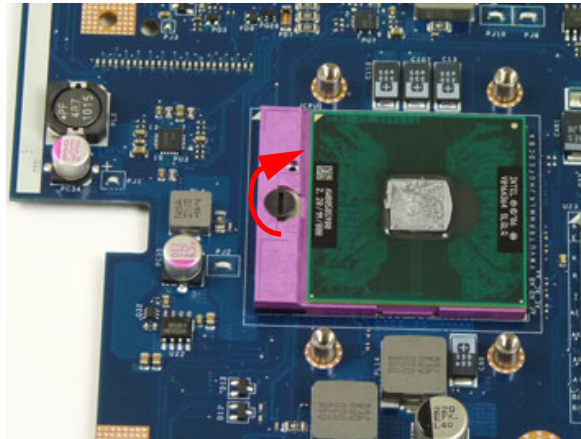
Replacing the CPU

IMPORTANT: The CPU has a Pin1 locator that must be positioned corresponding to the marker on the CPU socket.

1. Place the CPU into the CPU socket as shown, taking note of the Pin1 locator.



2. Using a flat-bladed screw driver, rotate the CPU locking screw 180° clockwise to secure the CPU in place.



Replacing the Thermal Module

IMPORTANT: Apply a suitable thermal grease and ensure all heat pads are in place before replacing the thermal module.

The following thermal grease/pads are approved for use:

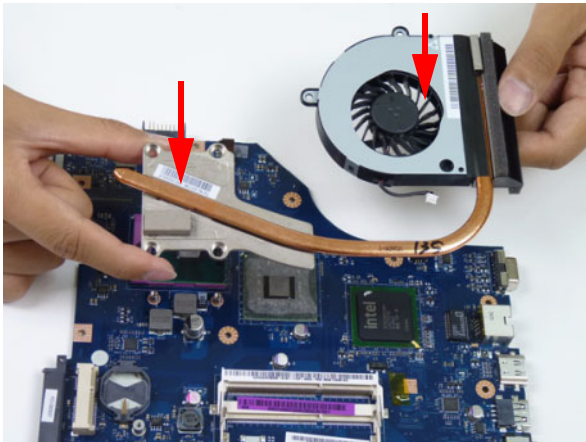
CPU grease:

- Nano N302
- Honey well PCM45F-SP

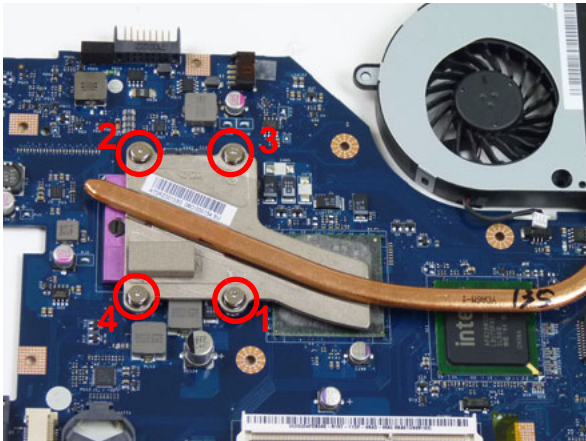
CPU chock or CPU mosfet:


- Laird T-flex340
- Eapus XR-HL

1. Remove all traces of thermal grease from the CPU using a lint-free cloth or cotton swab and Isopropyl Alcohol or other approved cleaning agent.
2. Apply a small amount of thermal grease to the center of the CPU—there is no need to spread the grease manually, the force used during the installation of the thermal module is sufficient.
3. Align the screw holes on the thermal module and mainboard then replace the module. Keep the module as level as possible to spread the thermal grease evenly.

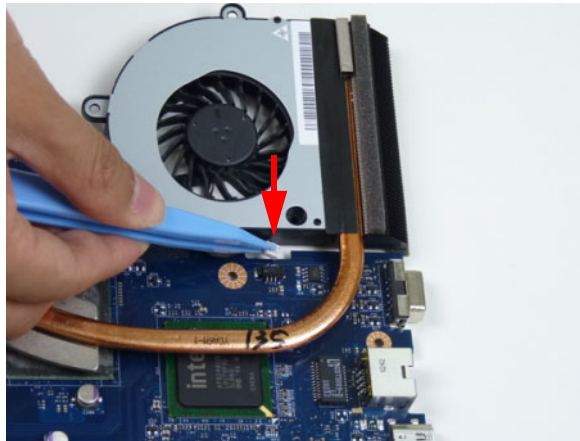


4. Replace the four (4) securing screws (in numerical order from screw 1 to screw 4) to secure the thermal module in place.



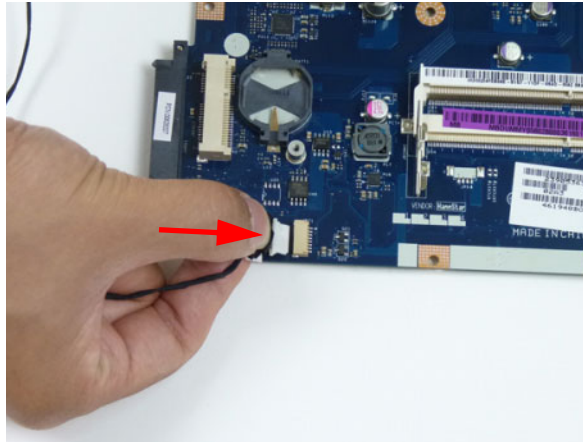
Step	Size	Quantity	Screw Type
Thermal Module	M1.98*3 (red callouts)	4	

5. Connect the fan cable.

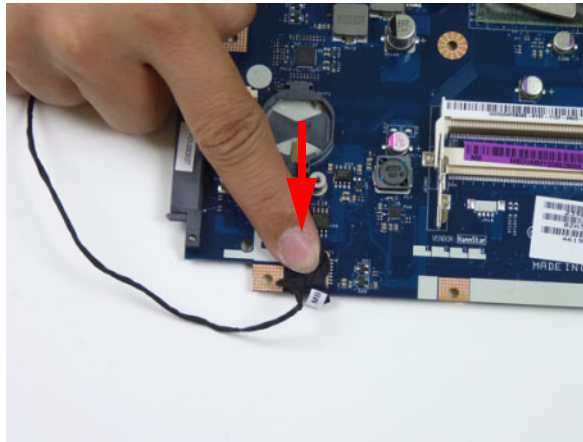


Replacing the Mainboard

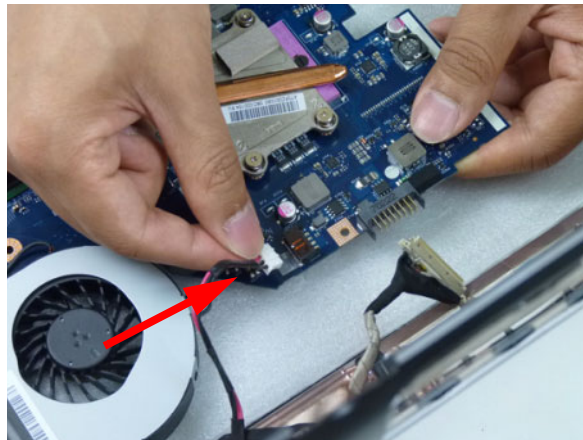
1. Connect the Bluetooth to mainboard cable.



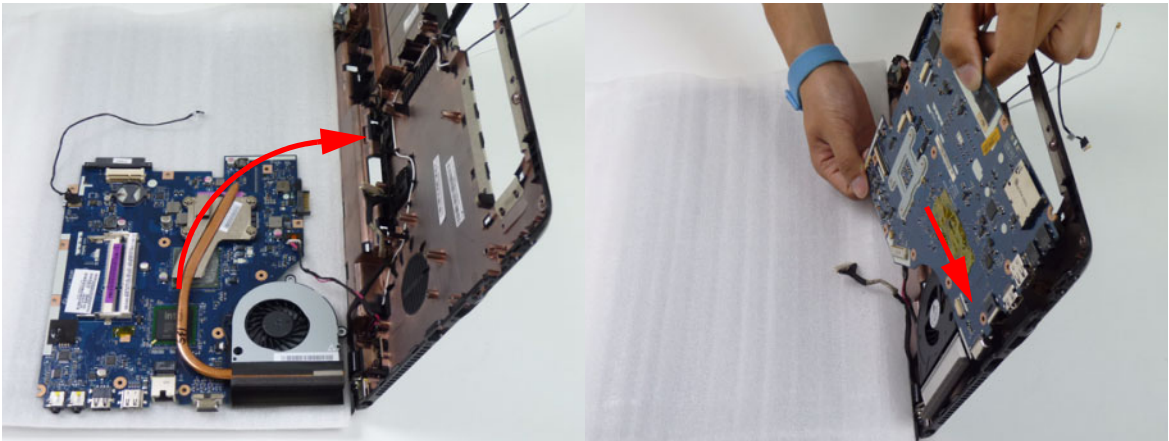
2. Apply the adhesive tape to secure the Bluetooth cable.



3. Place the mainboard on a clean, dust-free surface. Connect the power cable.




4. Place the mainboard in the chassis, left edge first to line up the I/O ports.



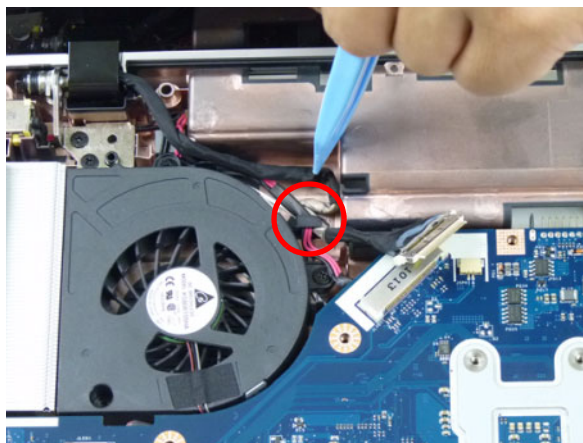
NOTE: Ensure the I/O ports are positioned correctly through the casing.

5. Replace the four (4) securing screws to the mainboard.

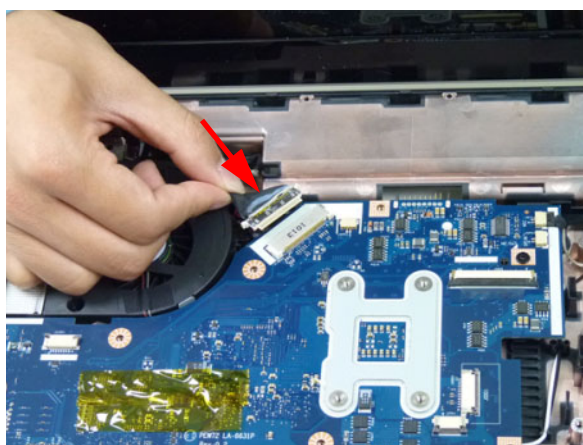


Step	Size	Quantity	Screw Type
Mainboard	M2.5*5	4	

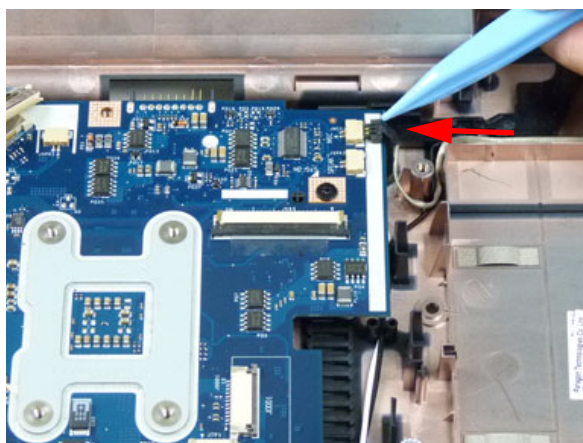
6. Place the LVDS cable and the DC-IN cable into the cable guide.



7. Connect the LVDS cable to the mainboard.

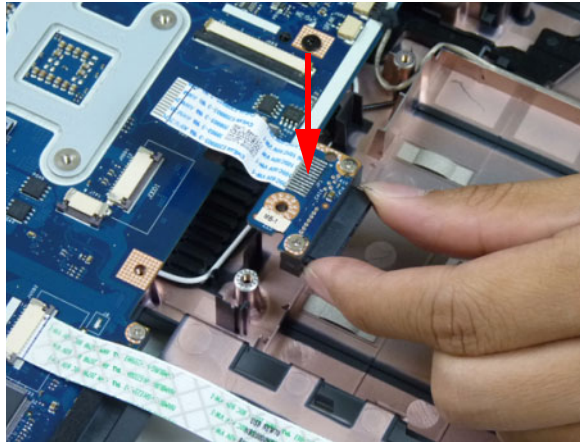


8. Connect the microphone cable to the mainboard.

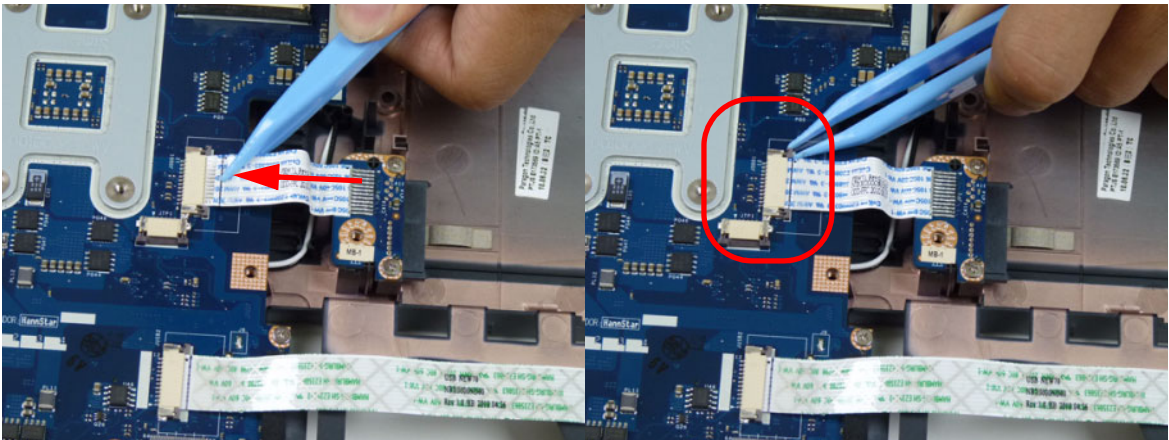


Replacing the ODD Connector Board

1. Place the ODD connector board into the lower cover using the board pin.

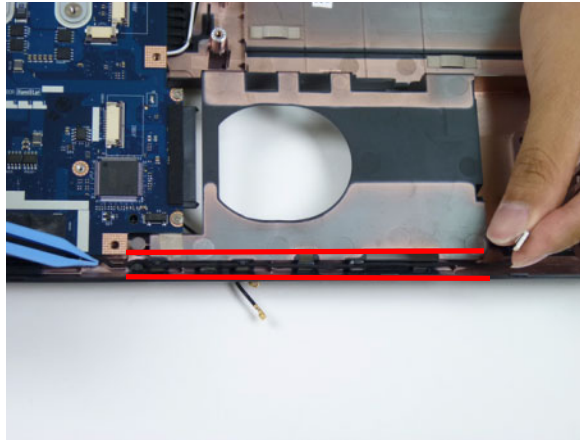


2. Connect the ODD FFC to the mainboard and lock the connector.

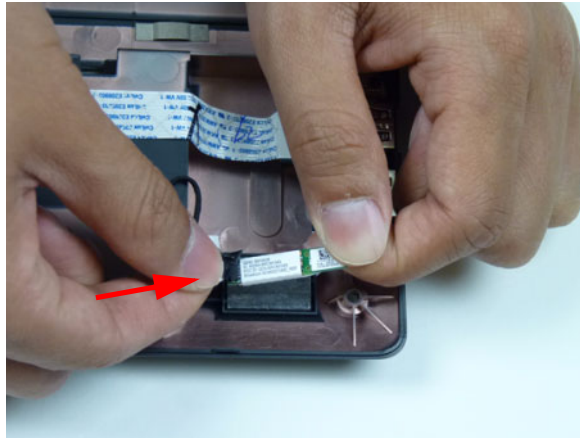


Replacing the Bluetooth Board

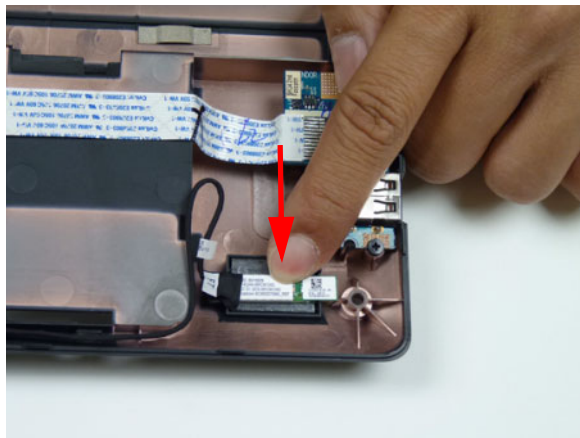
1. Place the Bluetooth cable into the cable guides.



2. Connect the Bluetooth cable to the Bluetooth module.



3. Place the Bluetooth board onto the adhesive.




Replacing the USB Board

- 1. Place the USB board in the chassis.

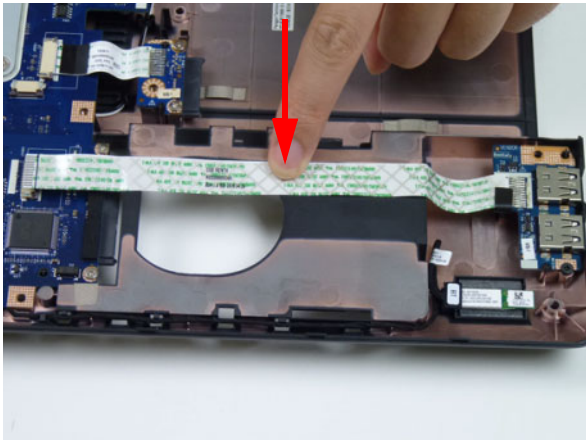


- 2. Secure the one (1) screw on the USB board.

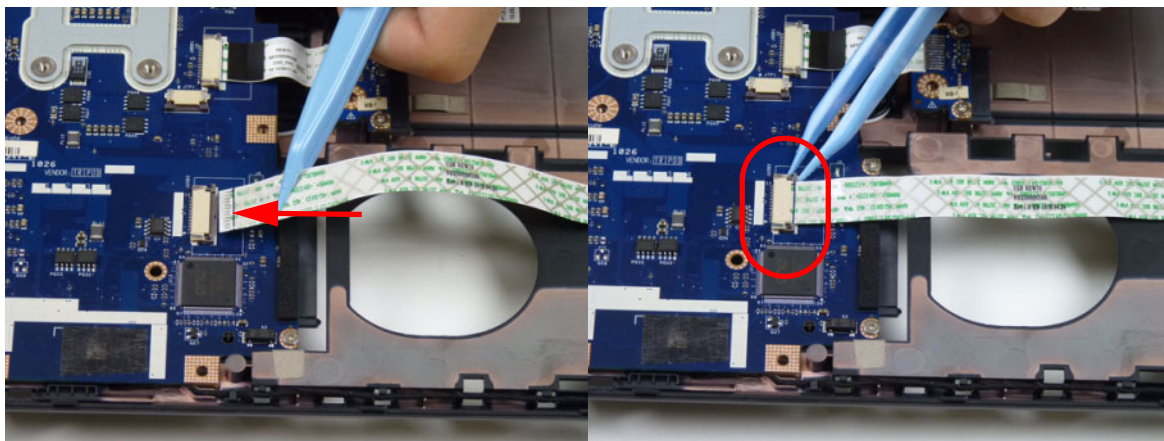


Step	Size	Quantity	Screw Type
USB Board	M2*3	1	

- 3. Adhere the FFC to the lower cover.

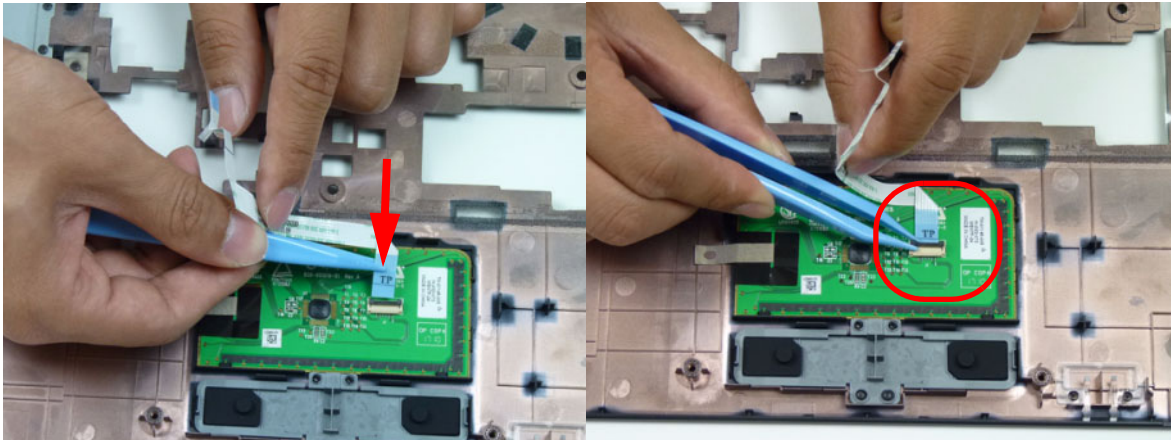


4. Connect the USB cable to the mainboard and lock the connector.

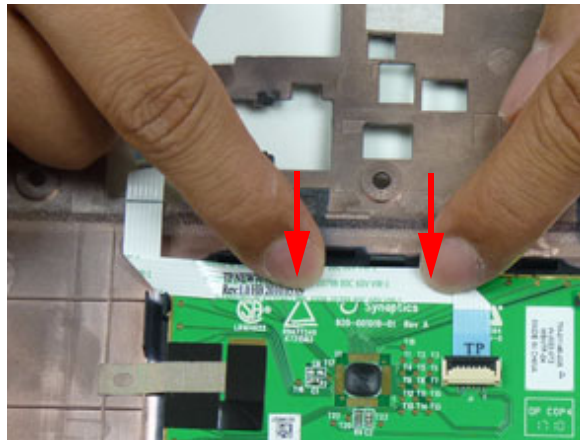


Replacing the Touchpad FFC

1. Connect the touchpad FFC to the connector and lock the FFC locking latch.



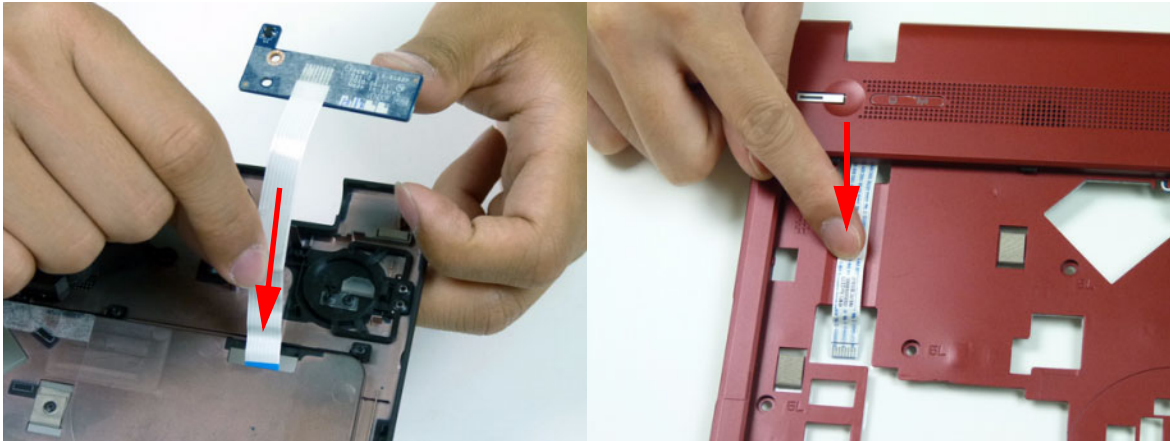
2. Gently press on the FFC to adhere the cable to the upper cover



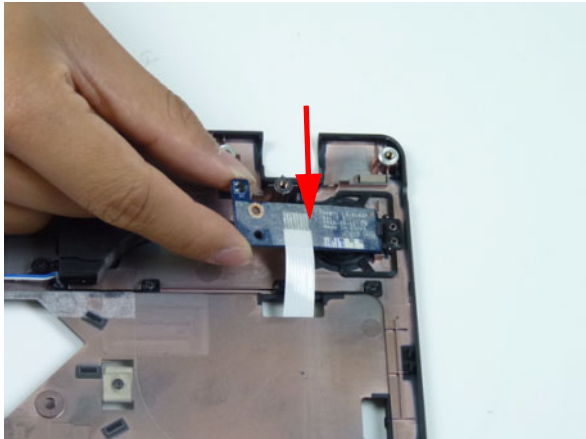
Replacing the Power Board

NOTE: The power board may vary depending your model.

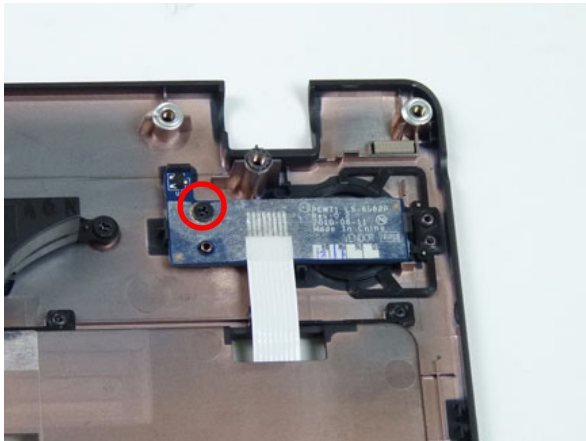
- 1. Pass the cable through the upper cover as shown. Turn the upper cover over and gently press down on the FFC to secure it to the upper cover.




- 2. Place the power board onto the upper cover.



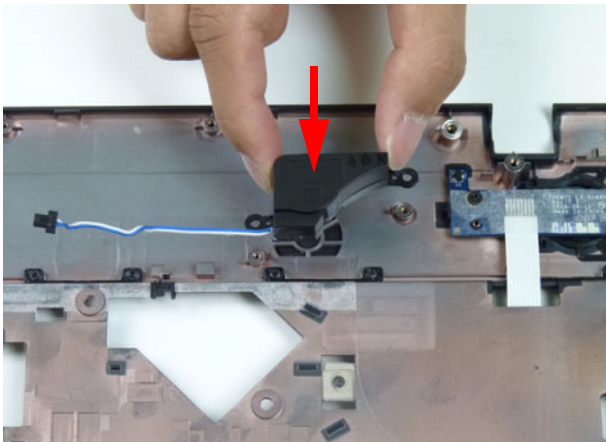
- 3. Replace one (1) screw to secure the power board.



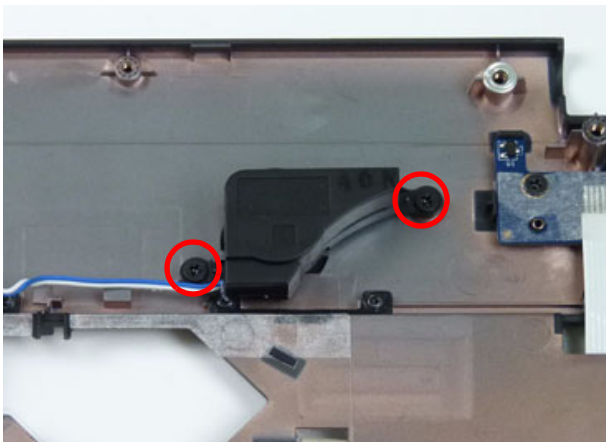
Step	Size	Quantity	Screw Type
Power Board	M2*3	1	


Replacing the Speaker Module

1. Place the speaker module onto the upper cover.

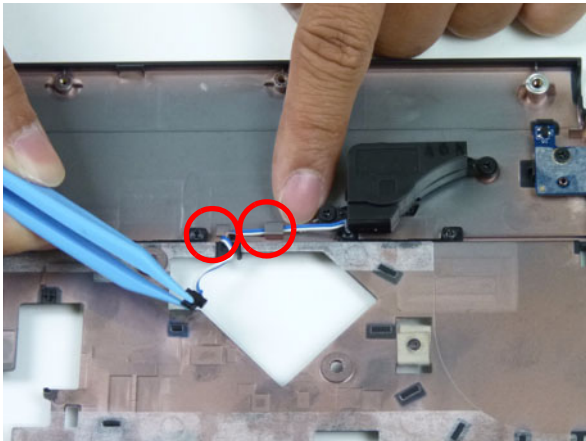


2. Replace two (2) screws to secure the speaker to the upper cover.



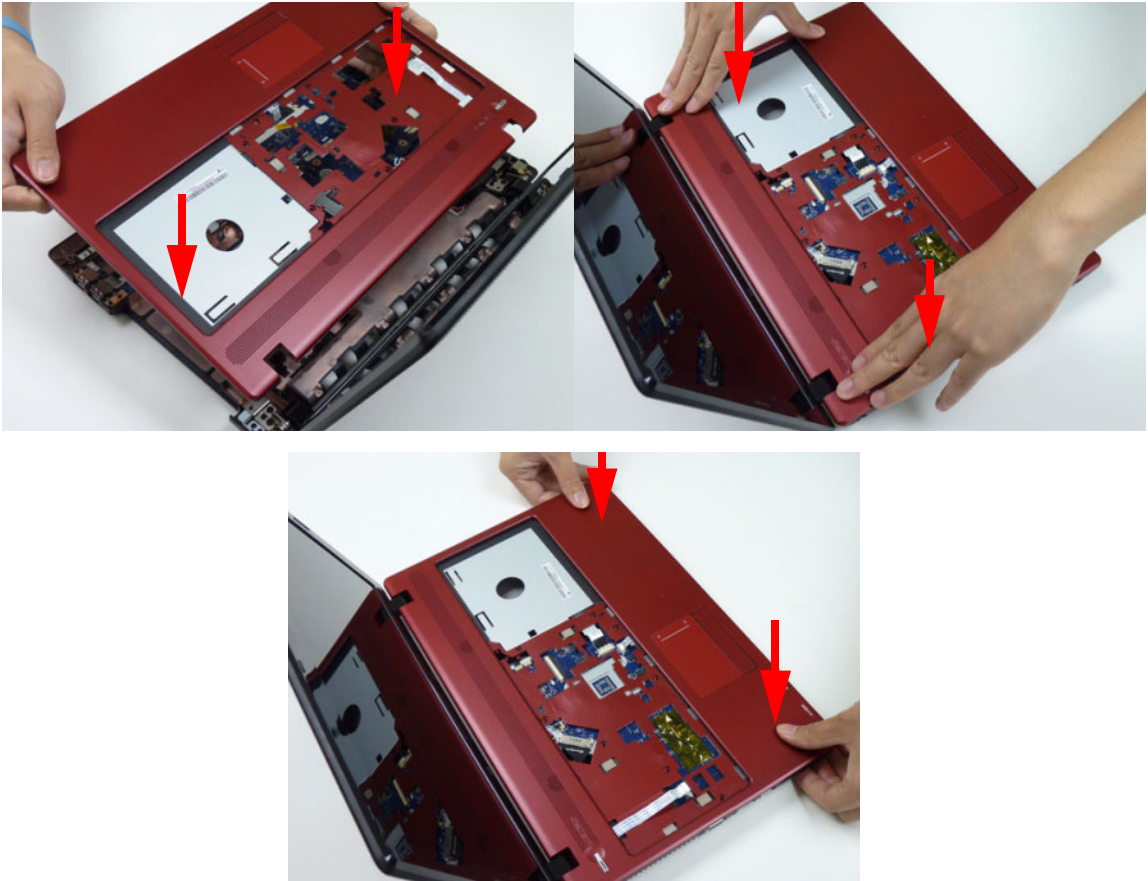
Step	Size	Quantity	Screw Type
Upper Cover	M2*3	2	

3. Place the speaker module cable into the cable guides as shown.

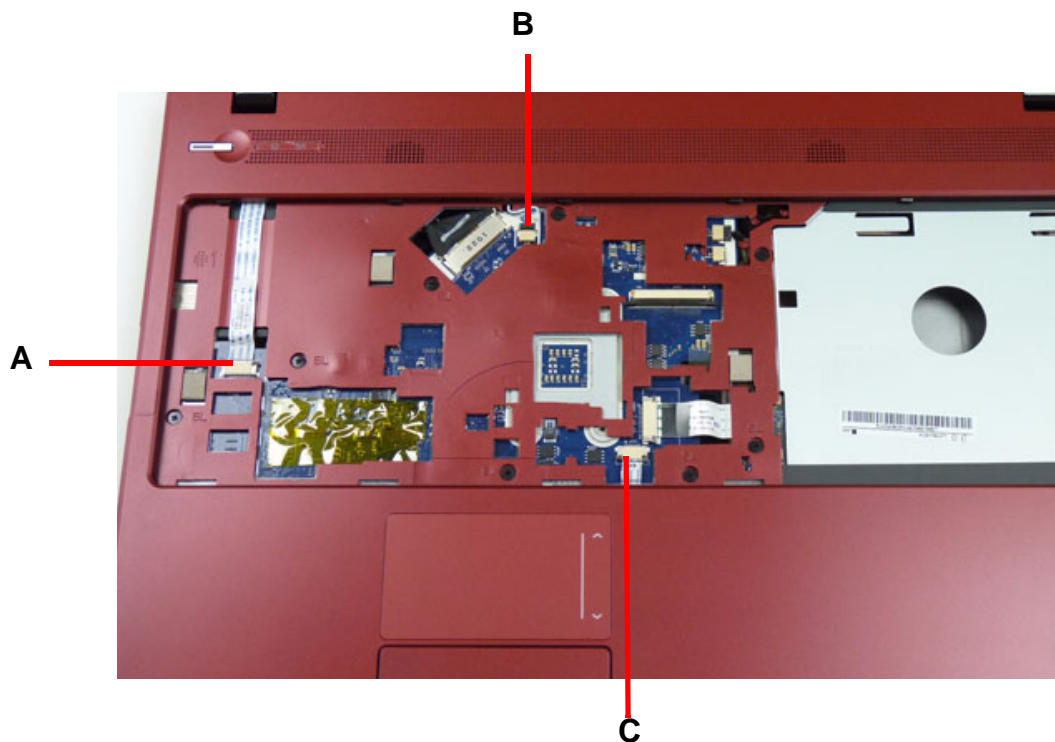


Replacing the Upper Cover

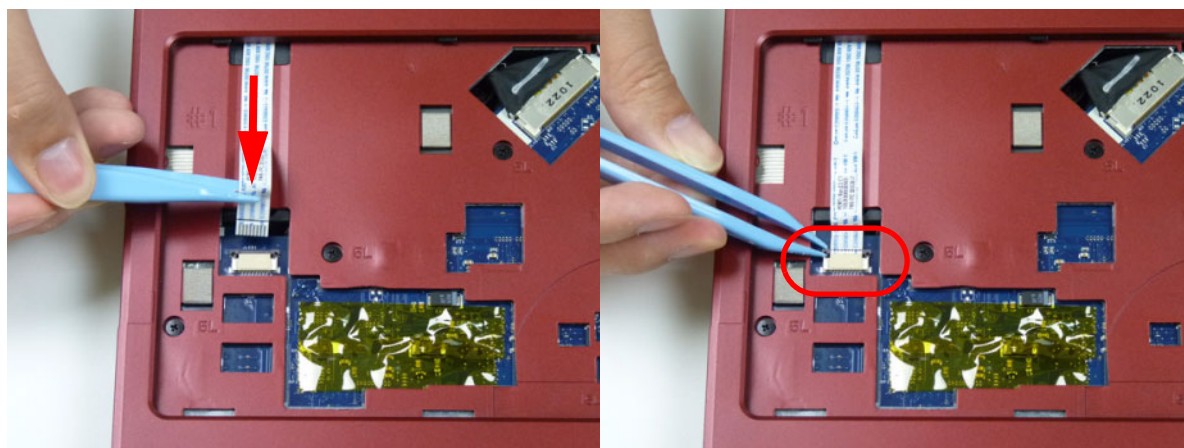
1. Place the upper cover on the lower cover as shown.



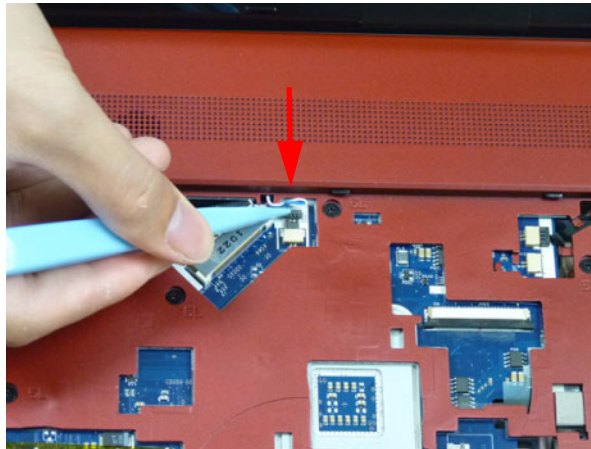
2. Connect the following three (3) cables to the mainboard.



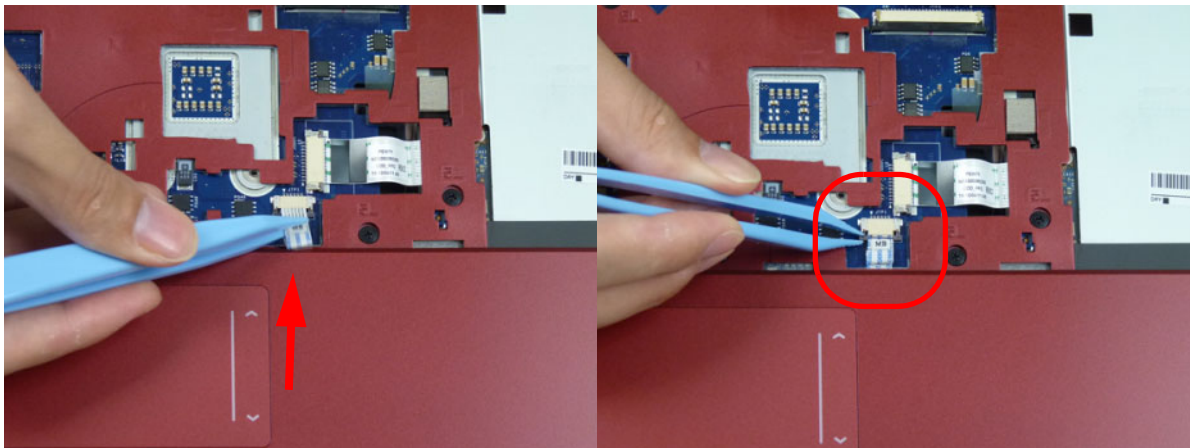
3. Connect and lock the power board FFC (A).



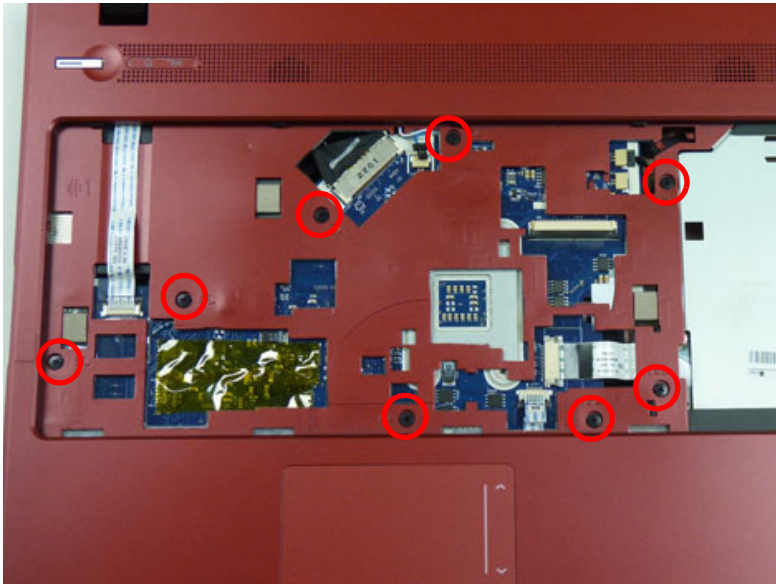
-
4. Connect the speaker cable (B).




5. Connect and lock the touchpad FFC (C).





6. Replace the eight (8) screws to secure the upper cover as shown.



Step	Size	Quantity	Screw Type
Upper Cover	M2.5*5	8	

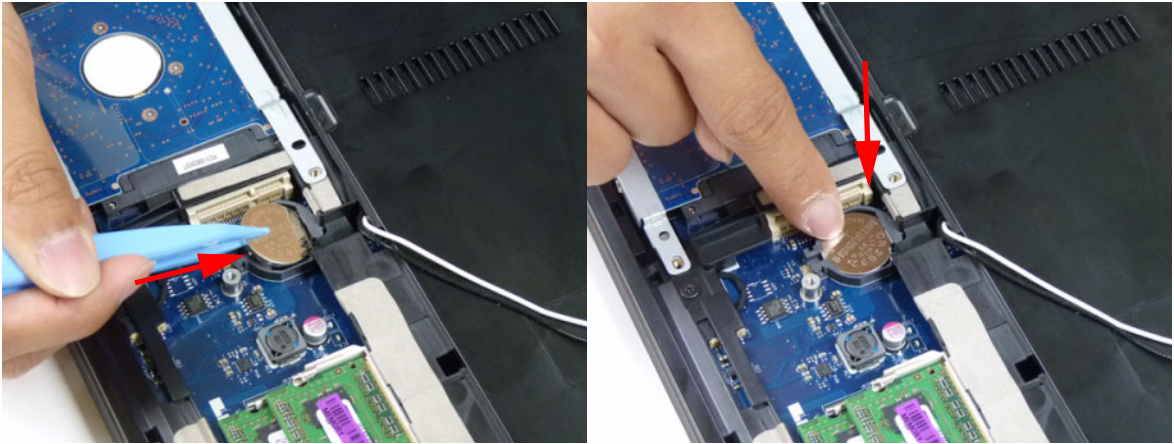
7. Turn the computer over. Replace the ten (10) screws on the lower cover and four (4) screws in the battery bay.



Step	Size	Quantity	Screw Type
Lower Cover	M2.5*8 (red callout)	10	
	M2*3 (green callout)	4	

Replacing the RTC Battery

1. Place the RTC battery into the mainboard connector.

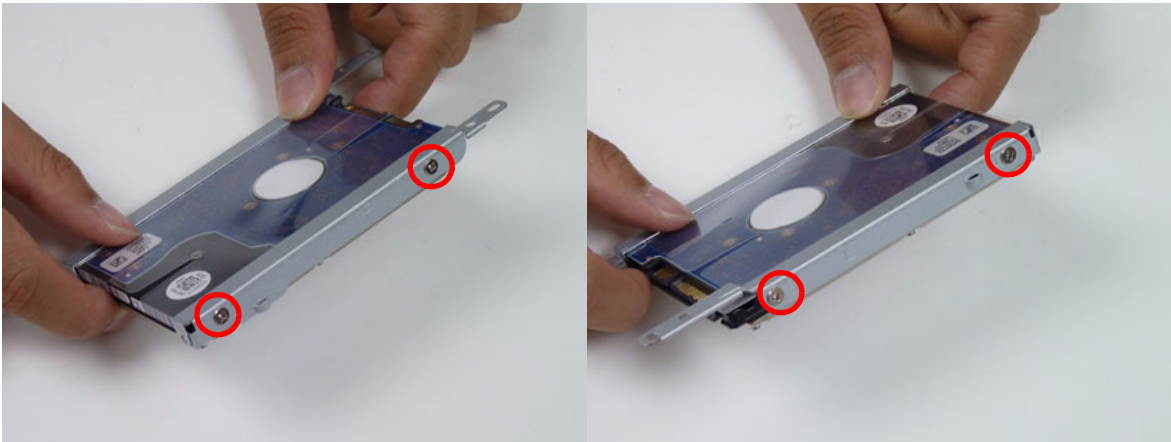



Replacing the HDD Module

- 1. Place the HDD in the HDD carrier.

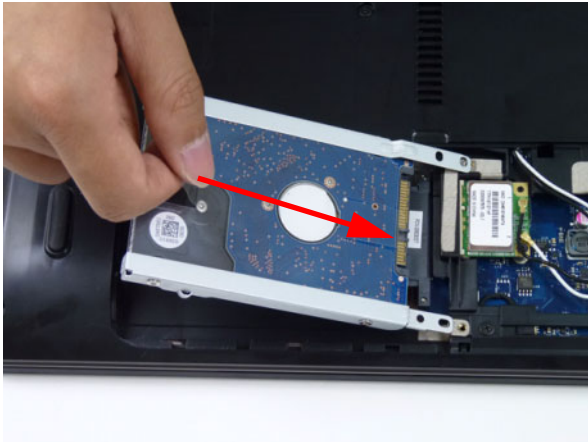


- 2. Replace the four (4) screws (two each side) to secure the carrier.



Step	Size	Quantity	Screw Type
HDD Carrier	M3*3	4	

- 3. Insert the HDD module, as indicated and lower it into place.



-
4. Slide the HDD module in the direction of the arrow to connect the interface.




Replacing the WLAN Module

- 1. Insert the WLAN Module into the WLAN socket.



- 2. Replace the one (1) screw to secure the module.



Step	Size	Quantity	Screw Type
WLAN Module	M2*3	1	

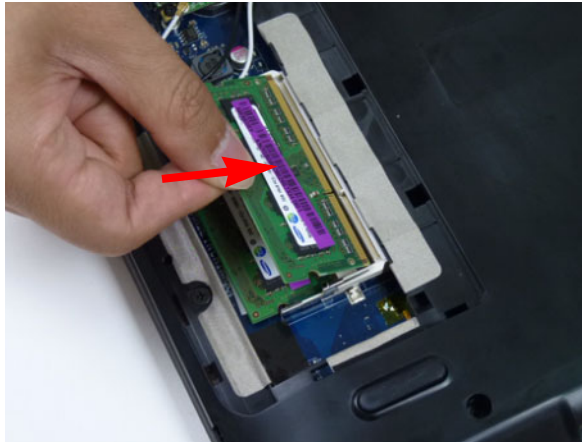
- 3. Connect the two (2) antenna cables to the module.



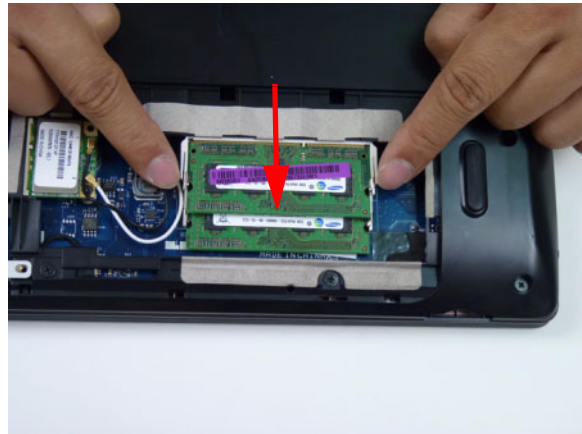
NOTE: The black cable connects to the upper terminal (MAIN) and the white cable to the lower terminal (MAIN).

Replacing the DIMM Modules

1. Insert the DIMM module in place.



2. Press down to lock the DIMM module in place.



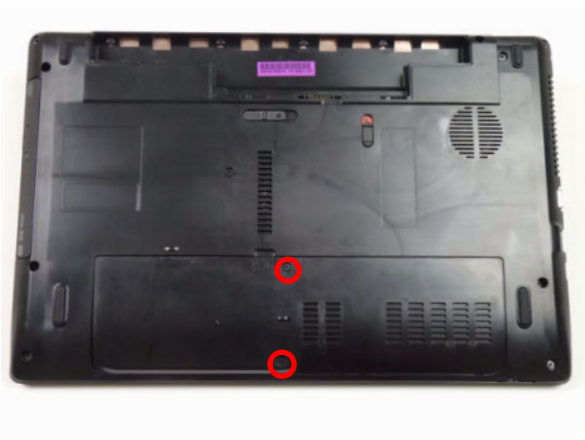
3. Repeat steps for the second DIMM module if present.


Replacing the Lower Logic Door

1. Replace the lower logic door by first lining up the bottom edge and lowering the door into place.



2. Replace two (2) screws to secure the lower logic door.



Step	Size	Quantity	Screw Type
Logic Lower Door	M2.5*8	2	

Replacing the ODD Module

1. Press the bezel into the tray, bottom edge first, to secure it to the ODD module.




2. Place the bracket on the ODD module.



3. Secure the ODD bracket with the two (2) screws.




Step	Size	Quantity	Screw Type
ODD Bracket	M2*3	2	

4. Push the ODD module into the ODD bay until it is flush with the casing.



5. Replace the one (1) screw to secure the module.



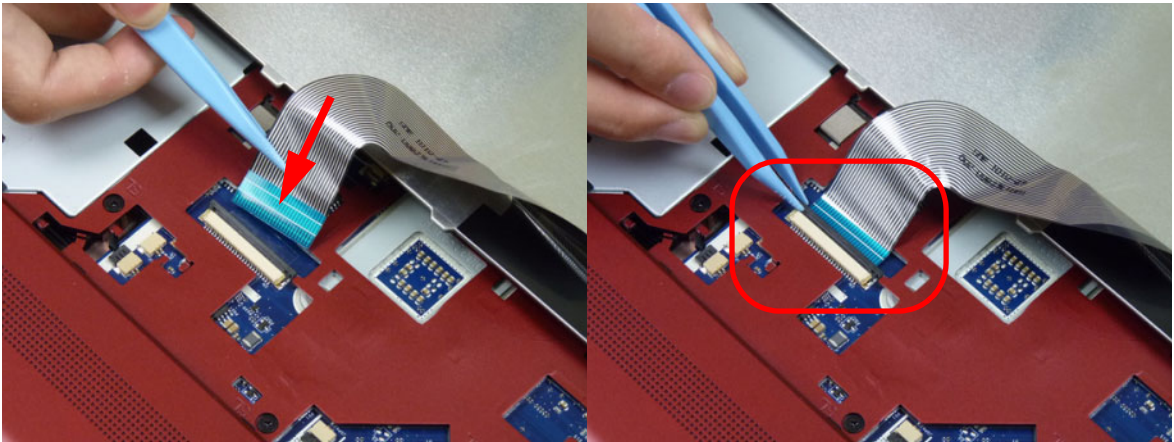
Step	Size	Quantity	Screw Type
ODD Module	M2.5*8	1	

Replacing the Keyboard

1. Place the keyboard face down on the palm rest.



2. Connect the keyboard FPC to the mainboard and close the locking latch to secure the FPC in place.



3. Replace the keyboard by first lining up the bottom edge. Press down firmly to lock.



Replacing the SD Dummy Card

1. Insert the SD dummy card into the slot as shown.



2. Push until the card clicks into place and is flush with the casing.



Replacing the Battery

1. Slide and hold the battery release latch to the release position (1), insert the battery pack and press down (2).



2. Slide the battery lock in the direction shown to secure the battery in place.



Troubleshooting

Common Problems

Use the following procedure as a guide for computer problems.

NOTE: The diagnostic tests are intended to test only Acer products. Non-Acer products, prototype cards, or modified options can give false errors and invalid system responses.

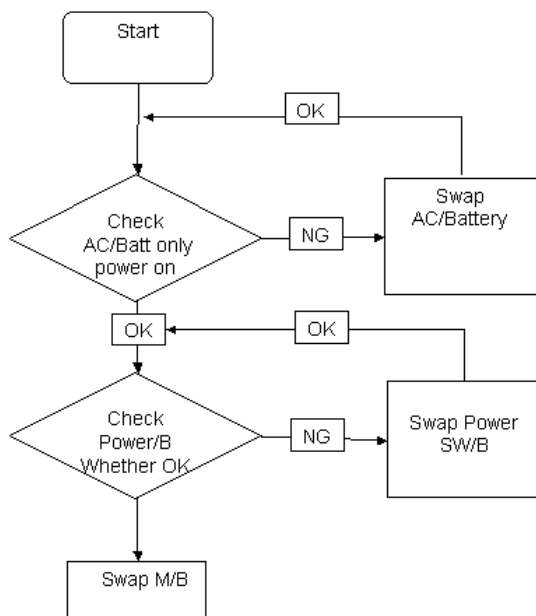
1. Obtain the failing symptoms in as much detail as possible.
2. Verify the symptoms by attempting to re-create the failure by running the diagnostic test or by repeating the same operation.
3. Use the following table with the verified symptom to determine which page to go to.

Symptoms (Verified)	Go To
Power On Issue	Page 140
No Display Issue	Page 141
LCD Failure	Page 143
Internal Keyboard Failure	Page 143
TouchPad Failure	Page 144
Internal Speaker Failure	Page 144
ODD Failure	Page 147
WLAN Failure	Page 150
Thermal Unit Failure	Page 150
Other Functions Failure	Page 151
Intermittent Failures	Page 152
Undermined Failures	Page 152

4. If the Issue is still not resolved, see "Online Support Information" on page 195.

Power On Issue

If the system doesn't power on, perform the following actions one at a time to correct the problem. Do not replace a non-defective FRUs:



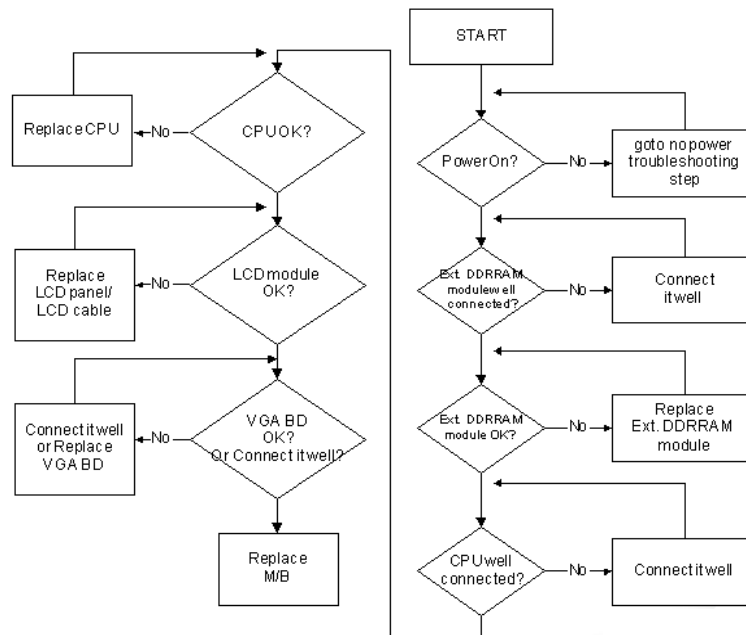
Computer Shutdown Intermittently

If the system powers off at intervals, perform the following actions one at a time to correct the problem.

1. Check the power cable is properly connected to the computer and the electrical outlet.
2. Remove any extension cables between the computer and the outlet.
3. Remove any surge protectors between the computer and the electrical outlet. Plug the computer directly into a known good electrical outlet.
4. Disconnect the power and open the casing to check the Thermal Unit (see "Thermal Unit Failure" on page 150) and fan airways are free of obstructions.
5. Remove all external and non-essential hardware connected to the computer that are not necessary to boot the computer to the failure point.
6. Remove any recently installed software.
7. If the Issue is still not resolved, see "Online Support Information" on page 195.

No Display Issue

If the **Display** doesn't work, perform the following actions one at a time to correct the problem. Do not replace a non-defective FRUs:



No POST or Video

If the POST or video doesn't display, perform the following actions one at a time to correct the problem.

1. Make sure that the internal display is selected. On this notebook model, switching between the internal display and the external display is done by pressing **Fn+F5**. Reference Product pages for specific model procedures.
2. Make sure the computer has power by checking at least one of the following occurs:
 - Fans start up
 - Status LEDs light up

If there is no power, see “Power On Issue” on page 140.

3. Drain any stored power by removing the power cable and battery and holding down the power button for 10 seconds. Reconnect the power and reboot the computer.
4. Connect an external monitor to the computer and switch between the internal display and the external display is by pressing **Fn+F5** (on this model).

If the POST or video appears on the external display, see “LCD Failure” on page 143.

5. Disconnect power and all external devices including port replicators or docking stations. Remove any memory cards and CD/DVD discs. Restart the computer.

If the computer boots correctly, add the devices one by one until the failure point is discovered.

6. Reseat the memory modules.
7. Remove the drives (see “Disassembly Process” on page 45).
8. If the Issue is still not resolved, see “Online Support Information” on page 195.

Abnormal Video Display

If video displays abnormally, perform the following actions one at a time to correct the problem.

1. Reboot the computer.
2. If permanent vertical/horizontal lines or dark spots display in the same location, the LCD is faulty and should be replaced. See “Disassembly Process” on page 45.
3. If extensive pixel damage is present (different colored spots in the same locations on the screen), the LCD is faulty and should be replaced. See “Disassembly Process” on page 45.
4. Adjust the brightness to its highest level. See the User Manual for instructions on adjusting settings.
NOTE: Ensure that the computer is not running on battery alone as this may reduce display brightness.
If the display is too dim at the highest brightness setting, the LCD is faulty and should be replaced. See “Disassembly Process” on page 45.
5. Check the display resolution is correctly configured:
 - a. Minimize or close all Windows.
 - b. If display size is only abnormal in an application, check the view settings and control/mouse wheel zoom feature in the application.
 - c. If desktop display resolution is not normal, right-click on the desktop and select **Personalize**→ **Display Settings**.
 - d. Click and drag the Resolution slider to the desired resolution.
 - e. Click **Apply** and check the display. Readjust if necessary.
6. Roll back the video driver to the previous version if updated.
7. Remove and reinstall the video driver.
8. Check the Device Manager to determine that:
 - The device is properly installed. There are no red Xs or yellow exclamation marks.
 - There are no device conflicts.
 - No hardware is listed under Other Devices.
9. If the Issue is still not resolved, see “Online Support Information” on page 195.
10. Run the Windows Memory Diagnostic from the operating system DVD and follow the onscreen prompts.
11. If the Issue is still not resolved, see “Online Support Information” on page 195.

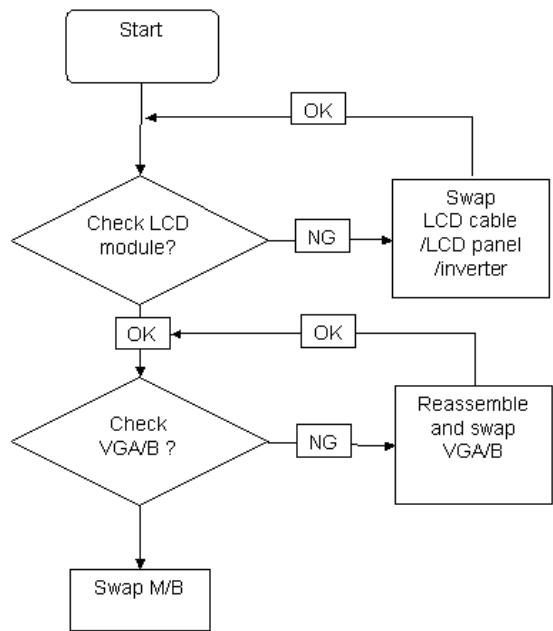
Random Loss of BIOS Settings

If the computer is experiencing intermittent loss of BIOS information, perform the following actions one at a time to correct the problem.

1. If the computer is more than one year old, replace the CMOS battery.
2. Run a complete virus scan using up-to-date software to ensure the computer is virus free.
3. If the computer is experiencing HDD or ODD BIOS information loss, disconnect and reconnect the power and data cables between devices.
If the BIOS settings are still lost, replace the cables.
4. If HDD information is missing from the BIOS, the drive may be defective and should be replaced.
5. Replace the Motherboard.
6. If the Issue is still not resolved, see “Online Support Information” on page 195.

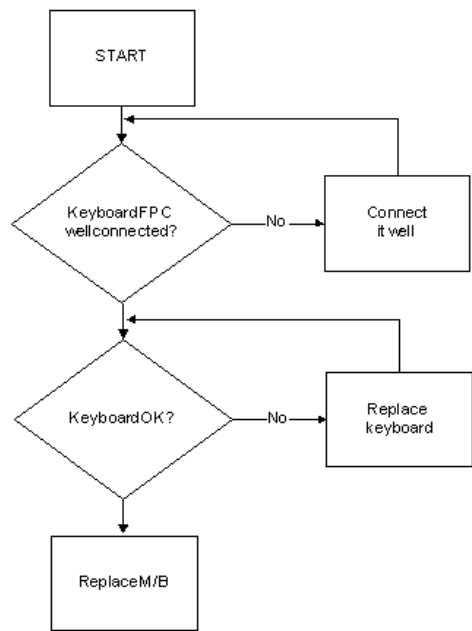
LCD Failure

If the **LCD** fails, perform the following actions one at a time to correct the problem. Do not replace a non-defective FRUs:



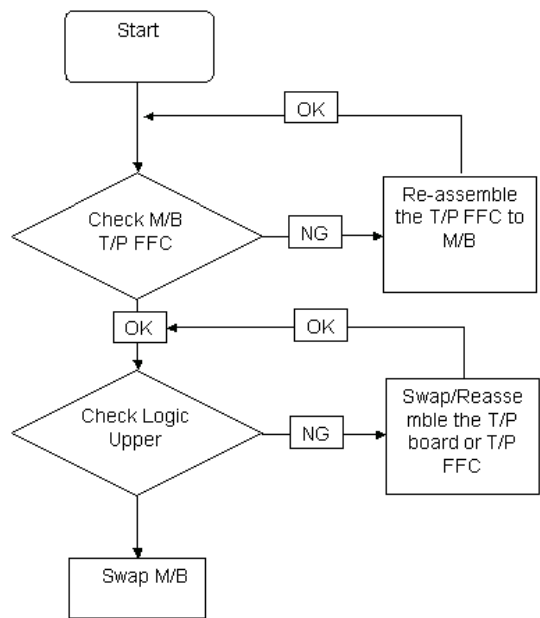
Built-In Keyboard Failure

If the built-in **Keyboard** fails, perform the following actions one at a time to correct the problem. Do not replace a non-defective FRUs:



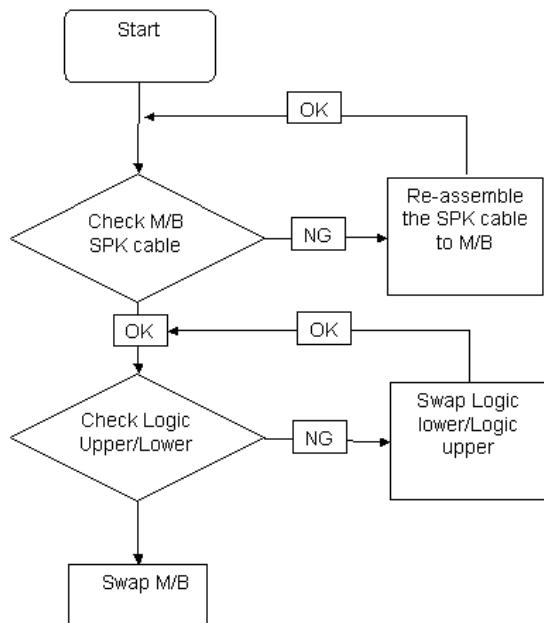
TouchPad Failure

If the **TouchPad** doesn't work, perform the following actions one at a time to correct the problem. Do not replace a non-defective FRUs:



Internal Speaker Failure

If the internal **Speakers** fail, perform the following actions one at a time to correct the problem. Do not replace a non-defective FRUs:



Sound Problems

If sound problems are experienced, perform the following actions one at a time to correct the problem.

1. Reboot the computer.
2. Navigate to **Start**→ **Control Panel**→ **System and Maintenance**→ **System**→ **Device Manager**. Check the Device Manager to determine that:
 - The device is properly installed.
 - There are no red Xs or yellow exclamation marks.
 - There are no device conflicts.
 - No hardware is listed under Other Devices.
3. Roll back the audio driver to the previous version, if updated recently.
4. Remove and reinstall the audio driver.
5. Ensure that all volume controls are set mid range:
 - a. Click the volume icon on the taskbar and drag the slider to 50. Ensure that the volume is not muted.
 - b. Click Mixer to verify that other audio applications are set to 50 and not muted.
6. Navigate to **Start**→ **Control Panel**→ **Hardware and Sound**→ **Sound**. Ensure that Speakers are selected as the default audio device (green check mark).

NOTE: If Speakers does not show, right-click on the **Playback** tab and select **Show Disabled Devices** (clear by default).
7. Select Speakers and click **Configure** to start **Speaker Setup**. Follow the onscreen prompts to configure the speakers.
8. Remove and recently installed hardware or software.
9. Restore system and file settings from a known good date using **System Restore**.

If the issue is not fixed, repeat the preceding steps and select an earlier time and date.
10. Reinstall the Operating System.
11. If the Issue is still not resolved, see “Online Support Information” on page 195.

Microphone Problems

If internal or external **Microphones** do not operate correctly, perform the following actions one at a time to correct the problem.

1. Check that the microphone is enabled. Navigate to **Start**→ **Control Panel**→ **Hardware and Sound**→ **Sound** and select the **Recording** tab.
2. Right-click on the **Recording** tab and select **Show Disabled Devices** (clear by default).
3. The microphone appears on the **Recording** tab.
4. Right-click on the microphone and select **Enable**.
5. Select the microphone then click **Properties**. Select the **Levels** tab.
6. Increase the volume to the maximum setting and click **OK**.
7. Test the microphone hardware:
 - a. Select the microphone and click **Configure**.
 - b. Select **Set up microphone**.
 - c. Select the microphone type from the list and click **Next**.
 - d. Follow the onscreen prompts to complete the test.
8. If the Issue is still not resolved, see “Online Support Information” on page 195.

HDD Not Operating Correctly

If the **HDD** does not operate correctly, perform the following actions one at a time to correct the problem.

1. Disconnect all external devices.
2. Run a complete virus scan using up-to-date software to ensure the computer is virus free.
3. Run the Windows Vista Startup Repair Utility:
 - a. insert the Windows Vista Operating System DVD in the ODD and restart the computer.
 - b. When prompted, press any key to start to the operating system DVD.
 - c. The **Install Windows** screen displays. Click **Next**.
 - d. Select **Repair your computer**.
 - e. The **System Recovery Options** screen displays. Click **Next**.
 - f. Select the appropriate operating system, and click **Next**.

NOTE: Click **Load Drivers** if controller drives are required.

- g. Select **Startup Repair**.
- h. Startup Repair attempts to locate and resolve issues with the computer.
- i. When complete, click **Finish**.

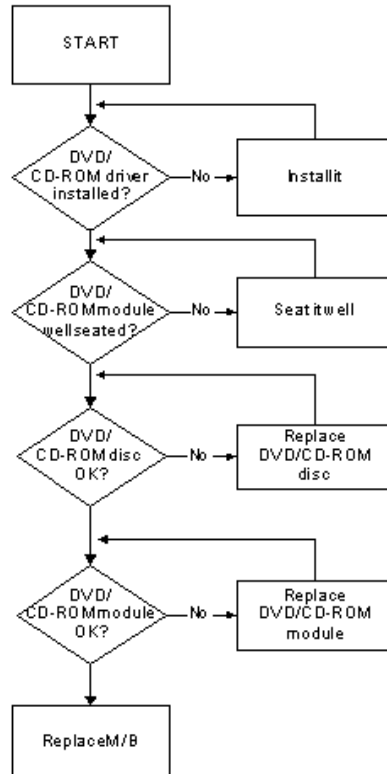
If an issue is discovered, follow the onscreen information to resolve the problem.

4. Run the Windows Memory Diagnostic Tool. For more information see Windows Help and Support.
5. Restart the computer and press F2 to enter the BIOS Utility. Check the BIOS settings are correct and that CD/DVD drive is set as the first boot device on the Boot menu.
6. Ensure all cables and jumpers on the HDD and ODD are set correctly.
7. Remove any recently added hardware and associated software.
8. Run the Windows Disk Defragmenter. For more information see Windows Help and Support.
9. Run Windows Check Disk by entering **chkdsk /r** from a command prompt. For more information see Windows Help and Support.
10. Restore system and file settings from a known good date using **System Restore**.

If the issue is not fixed, repeat the preceding steps and select an earlier time and date.
11. Replace the HDD. See "Disassembly Process" on page 45.

ODD Failure

If the **ODD** fails, perform the following actions one at a time to correct the problem. Do not replace a non-defective FRUs:



ODD Not Operating Correctly

If the **ODD** exhibits any of the following symptoms it may be faulty:

- Audio CDs do not play when loaded
- DVDs do not play when loaded
- Blank discs do not burn correctly
- DVD or CD play breaks up or jumps
- Optical drive not found or not active:
 - Not shown in My Computer or the BIOS setup
 - LED does not flash when the computer starts up
 - The tray does not eject
- Access failure screen displays
- The ODD is noisy

Perform the following general solutions one at a time to correct the problem.

1. Reboot the computer and retry the operation.
2. Try an alternate disc.
3. Navigate to **Start** → **Computer**. Check that the ODD device is displayed in the **Devices with Removable Storage** panel.
4. Navigate to **Start** → **Control Panel** → **System and Maintenance** → **System** → **Device Manager**.

-
- a. Double-click **IDE ATA/ATAPI controllers**. If a device displays a down arrow, right-click on the device and click **Enable**.
 - b. Double-click **DVD/CD-ROM drives**. If the device displays a down arrow, right-click on the device and click **Enable**.
 - c. Check that there are no yellow exclamation marks against the items in **IDE ATA/ATAPI controllers**. If a device has an exclamation mark, right-click on the device and uninstall and reinstall the driver.
 - d. Check that there are no yellow exclamation marks against the items in **DVD/CD-ROM drives**. If a device has an exclamation mark, right-click on the device and uninstall and reinstall the driver.
 - e. If the exclamation marker is not removed from the item in the lists, try removing any recently installed software and retrying the operation.

Discs Do Not Play

If discs do not play when inserted in the drive, perform the following actions one at a time to correct the problem.

1. Check that the disc is correctly seated in the drive tray and that the label on the disc is visible.
2. Check that the media is clean and scratch free.
3. Try an alternate disc in the drive.
4. Ensure that **AutoPlay** is enabled:
 - a. Navigate to **Start**→ **Control Panel**→ **Hardware and Sound**→ **AutoPlay**.
 - b. Select **Use AutoPlay for all media and devices**.
 - c. In the Audio CD and DVD Movie fields, select the desired player from the drop down menu.
5. Check that the Regional Code is correct for the selected media:

IMPORTANT:Region can only be changed a limited number of times. After Changes remaining reaches zero, the region cannot be changed even Windows is reinstalled or the drive is moved to another computer.

- a. Navigate to **Start**→ **Control Panel**→ **System and Maintenance**→ **System**→ **Device Manager**.
- b. Double-click **DVD/CD-ROM drives**.
- c. Right-click **DVD drive** and click **Properties**, then click the **DVD Region** tab.
- d. Select the region suitable for the media inserted in the drive.

Discs Do Not Burn Properly

If discs can not be burned, perform the following actions one at a time to correct the problem.

1. Ensure that the default drive is record enabled:
 - a. Navigate to **Start**→ **Computer** and right-click the writable ODD icon. Click **Properties**.
 - b. Select the **Recording** tab. In the **Desktop disc recording** panel, select the writable ODD from the drop down list.
 - c. Click **OK**.
2. Ensure that the software used for burning discs is the factory default. If using different software, refer to the software's user manual.

Playback is Choppy

If playback is choppy or jumps, perform the following actions one at a time to correct the problem.

1. Check that system resources are not running low:
 - a. Try closing some applications.
 - b. Reboot and try the operation again.
2. Check that the ODD controller transfer mode is set to DMA:
 - a. Navigate to **Start**→ **Control Panel**→ **System and Maintenance**→ **System**→ **Device Manager**.

-
- b. Double-click **IDE ATA/ATAPI controllers**, then right-click ATA Device 0.
 - c. Click **Properties** and select the **Advanced Settings** tab. Ensure that the **Enable DMA** box is checked and click **OK**.
 - d. Repeat for the other ATA Devices shown if applicable.

Drive Not Detected

If Windows cannot detect the drive, perform the following actions one at a time to correct the problem.

1. Restart the computer and press F2 to enter the BIOS Utility.
2. Check that the drive is detected in the **ATAPI Model Name** field on the Information page.
NOTE: Check that the entry is identical to one of the ODDs specified in “Hardware Specifications and Configurations” on page 14.
3. Turn off the power and remove the cover to inspect the connections to the ODD. See “Disassembly Process” on page 45.
 - a. Check for broken connectors on the drive, motherboard, and cables.
 - b. Check for bent or broken pins on the drive, motherboard, and cable connections.
 - c. Try an alternate cable, if available. If the drive works with the new cable, the original cable should be replaced.
4. Reseat the drive ensuring and all cables are connected correctly.
5. Replace the ODD. See “Disassembly Process” on page 45.

Drive Read Failure

If discs cannot be read when inserted in the drive, perform the following actions one at a time to correct the problem.

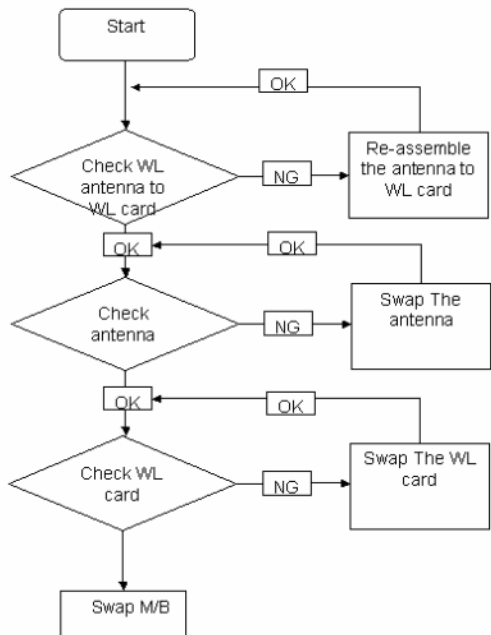
1. Remove and clean the failed disc.
2. Retry reading the CD or DVD.
 - d. Test the drive using other discs.
 - e. Play a DVD movie
 - f. Listen to a music CD

If the ODD works properly with alternate discs, the original disc is probably defective and should be replaced.

3. Turn off the power and remove the cover to inspect the connections to the ODD. See “Disassembly Process” on page 45.
 - a. Check for broken connectors on the drive, motherboard, and cables.
 - b. Check for bent or broken pins on the drive, motherboard, and cable connections.
 - c. Try an alternate cable, if available. If the drive works with the new cable, the original cable should be replaced.
4. Replace the ODD. See “Disassembly Process” on page 45.

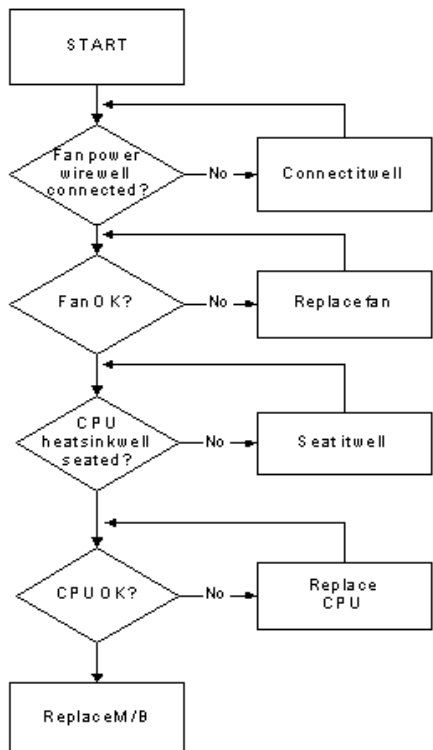
Wireless Function Failure

If the **WLAN** fails, perform the following actions one at a time to correct the problem. Do not replace a non-defective FRUs:



Thermal Unit Failure

If the **Thermal Unit** fails, perform the following actions one at a time to correct the problem. Do not replace a non-defective FRUs:



External Mouse Failure

If an external **Mouse** fails, perform the following actions one at a time to correct the problem.

1. Try an alternative mouse.
2. If the mouse uses a wireless connection, insert new batteries and confirm there is a good connection. See the mouse user manual.
3. If the mouse uses a USB connection, try an alternate USB port.
4. Try an alternative program to verify mouse operation. Reinstall the program experiencing mouse failure.
5. Restart the computer.
6. Remove any recently added hardware and associated software.
7. Remove any recently added software and reboot.
8. Restore system and file settings from a known good date using **System Restore**.

If the issue is not fixed, repeat the preceding steps and select an earlier time and date.

9. Run the Event Viewer to check the events log for errors. For more information see Windows Help and Support.
10. Roll back the mouse driver to the previous version if updated recently.
11. Remove and reinstall the mouse driver.
12. Check the Device Manager to determine that:
 - The device is properly installed. There are no red Xs or yellow exclamation marks.
 - There are no device conflicts.
 - No hardware is listed under Other Devices.
13. If the Issue is still not resolved, see "Online Support Information" on page 195.

Other Failures

If the CRT Switch, Dock, LAN Port, external MIC or Speakers, PCI Express Card, 5-in-1 Card Reader or Volume Wheel fail, perform the following general steps to correct the problem. Do not replace a non-defective FRUs:

1. Check Drive whether is OK.
2. Check Test Fixture is ok.
3. Swap M/B to Try.

Intermittent Problems

Intermittent system hang problems can be caused by a variety of reasons that have nothing to do with a hardware defect, such as: cosmic radiation, electrostatic discharge, or software errors. FRU replacement should be considered only when a recurring problem exists.

When analyzing an intermittent problem, do the following:

1. Run the advanced diagnostic test for the system board in loop mode at least 10 times.
2. If no error is detected, do not replace any FRU.
3. If any error is detected, replace the FRU. Rerun the test to verify that there are no more errors.

Undetermined Problems

The diagnostic problems does not identify which adapter or device failed, which installed devices are incorrect, whether a short circuit is suspected, or whether the system is inoperative.

Follow these procedures to isolate the failing FRU (do not isolate non-defective FRU).

NOTE: Verify that all attached devices are supported by the computer.

NOTE: Verify that the power supply being used at the time of the failure is operating correctly. (See “Power On Issue” on page 140.):

1. Power-off the computer.
2. Visually check them for damage. If any problems are found, replace the FRU.
3. Remove or disconnect all of the following devices:
 - Non-Acer devices
 - Printer, mouse, and other external devices
 - Battery pack
 - Hard disk drive
 - DIMM
 - CD-ROM/Diskette drive Module
 - PC Cards
4. Power-on the computer.
5. Determine if the problem has changed.
6. If the problem does not recur, reconnect the removed devices one at a time until you find the failing FRU.
7. If the problem remains, replace the following FRU one at a time. Do not replace a non-defective FRU:
 - System board
 - LCD assembly

Post Codes

These tables describe the POST codes and descriptions during the POST.

Post Code Range

Phase	POST Code Range
SEC	0x01 - 0x0F
PEI	0x70 - 0x9F
DXE	0x40 - 0x6F
BDS	0x10 - 0x3F
SMM	0xA0 - 0xBF
S3	0xC0 - 0xCF
ASL	0x51 – 0x55 0xE1 – 0xE4
PostBDS	0xF9 – 0xFE
Reserved	0xD8 – 0xE0 0xE5 – 0xF8

SEC Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
SEC_SYSTEM_POWER_ON	SEC	1	CPU power on and switch to Protected mode
SEC_BEFORE_MICROCODE_PATCH	SEC	2	Patching CPU microcode
SEC_AFTER_MICROCODE_PATCH	SEC	3	Setup Cache as RAM
SEC_SETUP_CAR_OK	SEC	7	Cache as RAM test
SEC_GO_TO_SECSTARTUP	SEC	9	Setup BIOS ROM cache
SEC_GO_TO_PEICORE	SEC	0A	Enter Boot Firmware Volume

PEI Phase POST Code Table:

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
PEI_SIO_INIT	PEI	70	Super I/O Initialization
PEI_CPU_REG_INIT	PEI	71	CPU Early Initialization
PEI_CPU_AP_INIT	PEI	72	Multi-processor Early Initial
PEI_CPU_HT_RESET	PEI	73	HyperTransport Initialization
PEI_PCIE_MMIO_INIT	PEI	74	PCIE MMIO BAR Initialization
PEI_NB_REG_INIT	PEI	75	North Bridge Early Initialization
PEI_SB_REG_INIT	PEI	76	South Bridge Early Initialization
PEI_PCIE_TRAINING	PEI	77	PCIE Training
PEI_TPM_INIT	PEI	78	TPM Initialization
PEI_SMBUS_INIT	PEI	79	SMBUS Early Initialization
PEI_PROGRAM_CLOCK_GEN	PEI	7A	Clock Generator Initialization
PEI_MEMORY_INIT	PEI	7E	Memory Initial for Normal boot.
PEI_MEMORY_INIT_FOR_CRISIS	PEI	7F	Memory Initial for Crisis Recovery
PEI_MEMORY_INSTALL	PEI	80	Simple Memory test
PEI_SWITCH_STACK	PEI	82	Start to use Memory

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
PEI_MEMORY_CALLBACK	PEI	83	Set cache for physical memory
PEI_ENTER_RECOVERY_MODE	PEI	84	Recovery device Initialization
PEI_RECOVERY_MEDIA_FOUND	PEI	85	Found Recovery image
PEI_RECOVERY_MEDIA_NOT_FOUND	PEI	86	Recovery image not found
PEI_RECOVERY_LOAD_FILE_DONE	PEI	87	Load Recovery Image completed
PEI_RECOVERY_START_FLASH	PEI	88	Start Flash BIOS with Recovery image
PEI_ENTER_DXEIPL	PEI	89	Loading BIOS image to RAM
PEI_FINDING_DXE_CORE	PEI	8A	Loading DXE core
PEI_GO_TO_DXE_CORE	PEI	8B	Enter DXE core

DXE Phase POST Code Table:

Functionality Name (Include\ PostCode.h)	Phase	PostCode	Description
DXE_NB_INIT	DXE	45	North bridge Middle initialization
DXE_SB_INIT	DXE	48	South Bridge Middle initialization
DXE_IDENTIFY_FLASH_DEVICE	DXE	49	Identify Flash device
DXE_FTW_INIT	DXE	4A	Fault Tolerant Write verification
DXE_VARIABLE_INIT	DXE	4B	Variable Service initialization
DXE_VARIABLE_INIT_FAIL	DXE	4C	Fail to initial Variable Service
DXE_MTC_INIT	DXE	4D	MTC Initial
DXE_CPU_INIT	DXE	4E	CPU Middle Initialization
DXE_MP_CPU_INIT	DXE	4F	Multi-processor MiddleInitialization
DXE_SMBUS_INIT	DXE	50	SMBUS Driver Initialization
DXE_SMART_TIMER_INIT	DXE	51	8259 Initialization
DXE_PCRTC_INIT	DXE	52	RTC Initialization
DXE_RELOCATE_SMBASE	DXE	56	Relocate SMM BASE
DXE_FIRST_SMI	DXE	57	SMI test
DXE_BEFORE_CSM16_INIT	DXE	59	Legacy BIOS Initialization
DXE_AFTER_CSM16_INIT	DXE	5A	Legacy interrupt function Initialization
DXE_LOAD_ACPI_TABLE	DXE	5B	ACPI Table Initialization

BDS Phase POST Code Table:

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
BDS_ENTER_BDS	BDS	10	Enter BDS entry
BDS_INSTALL_HOTKEY	BDS	11	Install Hotkey service
BDS_PCI_ENUMERATION_START	BDS	13	PCI enumeration
BDS_BEFORE_PCIIO_INSTALL	BDS	14	PCI resource assign complete
BDS_PCI_ENUMERATION_END	BDS	15	PCI enumeration complete
BDS_CONNECT_CONSOLE_IN	BDS	16	Keyboard Controller, Keyboard and Mouse initialization
BDS_CONNECT_CONSOLE_OUT	BDS	17	Video device initialization

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
BDS_CONNECT_STD_ERR	BDS	18	Error report device initialization
BDS_CONNECT_USB_HC	BDS	19	USB host controller initialization
BDS_CONNECT_USB_BUS	BDS	1A	USB BUS driver initialization
BDS_CONNECT_USB_DEVICE	BDS	1B	USB device driver initialization
BDS_NO_CONSOLE_ACTION	BDS	1C	Console device initial fail
BDS_DISPLAY_LOGO_SYSTEM_INFO	BDS	1D	Display logo or system information
BDS_START_IDE_CONTROLLER	BDS	1E	IDE controller initialization
BDS_START_SATA_CONTROLLER	BDS	1F	SATA controller initialization
BDS_START_ISA_ACPI_CONTROLLER	BDS	20	SIO controller initialization
BDS_START_ISA_BUS	BDS	21	ISA BUS driver initialization
BDS_START_ISA_FDD	BDS	22	Floppy device initialization
BDS_START_ISA_SEIRAL	BDS	23	Serial device initialization
BDS_START_IDE_BUS	BDS	24	IDE device initialization
BDS_START_AHCI_BUS	BDS	25	AHCI device initialization
BDS_CONNECT_LEGACY_ROM	BDS	26	Dispatch option ROMs
BDS_ENUMERATE_ALL_BOOT_OPTION	BDS	27	Get boot device information
BDS_END_OF_BOOT_SELECTION	BDS	28	End of boot selection
BDS_ENTER_SETUP	BDS	29	Enter Setup Menu
BDS_ENTER_BOOT_MANAGER	BDS	2A	Enter Boot manager
BDS_BOOT_DEVICE_SELECT	BDS	2B	Try to boot system to OS
BDS_EFI64_SHADOW_ALL_LEGACY_ROM	BDS	2C	Shadow Misc Option ROM
BDS_ACPI_S3SAVE	BDS	2D	Save S3 resume required data in RAM
BDS_READY_TO_BOOT_EVENT	BDS	2E	Last Chipset initial before boot to OS
BDS_GO_LEGACY_BOOT	BDS	2F	Start to boot Legacy OS
BDS_GO_UEFI_BOOT	BDS	30	Start to boot UEFI OS
BDS_LEGACY16_PREPARE_TO_BOOT	BDS	31	Prepare to Boot to Legacy OS
BDS_LEGACY_BOOT_EVENT	BDS	33	Last Chipset initial before boot to Legacy OS.
BDS_ENTER_LEGACY_16_BOOT	BDS	34	Ready to Boot Legacy OS.
BDS_RECOVERY_START_FLASH	BDS	35	Fast Recovery Start Flash.

PostBDS POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
POST_BDS_NO_BOOT_DEVICE	POST_BDS	F9	No Boot Device
POST_BDS_START_IMAGE	POST_BDS	FB	UEFI Boot Start Image
POST_BDS_ENTER_INT19	POST_BDS	FD	Legacy 16 boot entry
POST_BDS_JUMP_BOOT_SECTOR	POST_BDS	FE	Try to Boot with INT 19

S3 Functions POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
POST_BDS_NO_BOOT_DEVICE	POST_BDS	F9	No Boot Device
POST_BDS_START_IMAGE	POST_BDS	FB	UEFI Boot Start Image
POST_BDS_ENTER_INT19	POST_BDS	FD	Legacy 16 boot entry
POST_BDS_JUMP_BOOT_SECTOR	POST_BDS	FE	Try to Boot with INT 19

ACPI Functions POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
ASL_ENTER_S1	ASL	51	Prepare to enter S1
ASL_ENTER_S3	ASL	53	Prepare to enter S3
ASL_ENTER_S4	ASL	54	Prepare to enter S4
ASL_ENTER_S5	ASL	55	Prepare to enter S5
ASL_WAKEUP_S1	ASL	E1	System wakeup from S1
ASL_WAKEUP_S3	ASL	E3	System wakeup from S3
ASL_WAKEUP_S4	ASL	E4	System wakeup from S4

SMM Functions POST Code Table

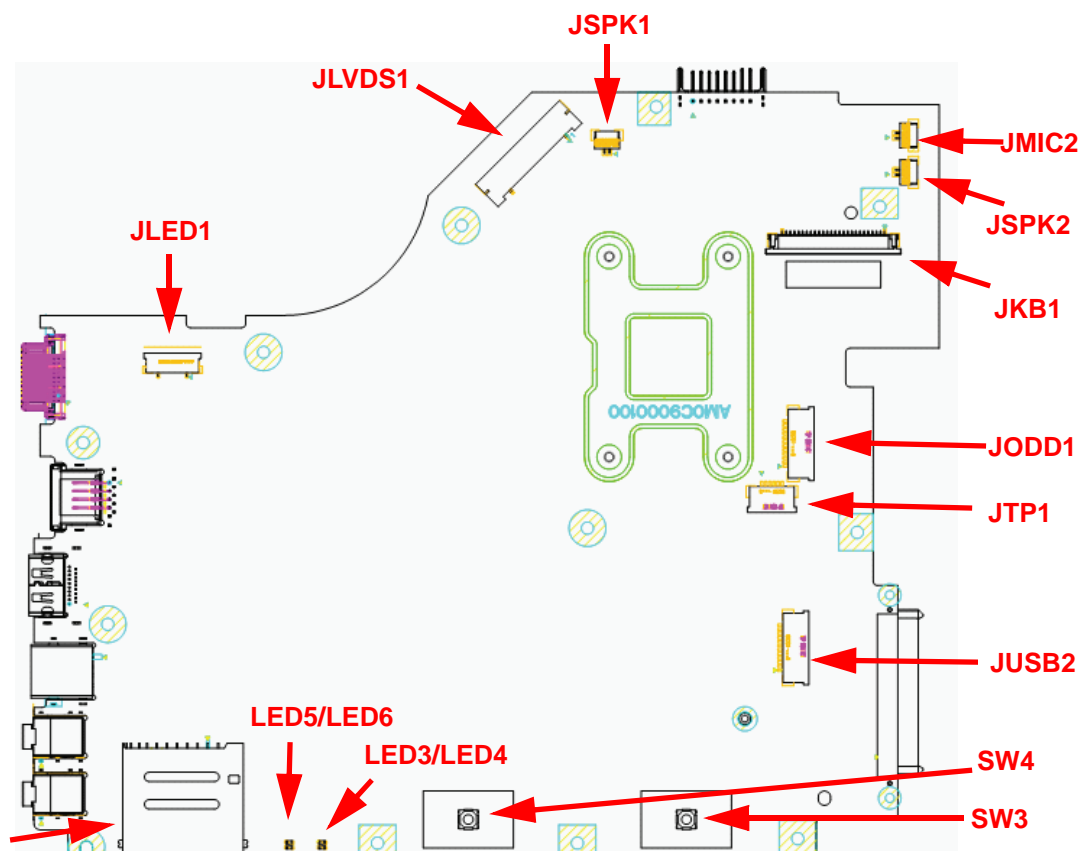
Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
SMM_IDENTIFY_FLASH_DEVICE	SMM	0xA0	Identify Flash device in SMM
SMM_SMM_PLATFORM_INIT	SMM	0xA2	SMM service initial
SMM_ACPI_ENABLE_START	SMM	0xA6	OS call ACPI enable function
SMM_ACPI_ENABLE_END	SMM	0xA7	ACPI enable function complete
SMM_S1_SLEEP_CALLBACK	SMM	0xA1	Enter S1
SMM_S3_SLEEP_CALLBACK	SMM	0xA3	Enter S3
SMM_S4_SLEEP_CALLBACK	SMM	0xA4	Enter S4
SMM_S5_SLEEP_CALLBACK	SMM	0xA5	Enter S5
SMM_ACPI_DISABLE_START	SMM	0xA8	OS call ACPI disable function
SMM_ACPI_DISABLE_END	SMM	0xA9	ACPI disable function complete

InsydeH2ODDT Debugger POST Code Table

Functionality Name (Include\ PostCode.h)	PostCode	Description
Used by Insyde debugger	0x0D	Waiting for device connect
Used by Insyde debugger	0xD0	Waiting for device connect
Used by Insyde debugger	0xD1	InsydeH2ODDT Ready
Used by Insyde debugger	0xD2	EHCI not found
Used by Insyde debugger	0xD3	Debug port connect low speed device
Used by Insyde debugger	0xD4	DDT Cable become low speed device
Used by Insyde debugger	0xD5	DDT Cable Transmission Error (Get descriptor fail)
Used by Insyde debugger	0xD6	DDT Cable Transmission Error (Set Debug mode fail)
Used by Insyde debugger	0xD7	DDT Cable Transmission Error (Set address fail)

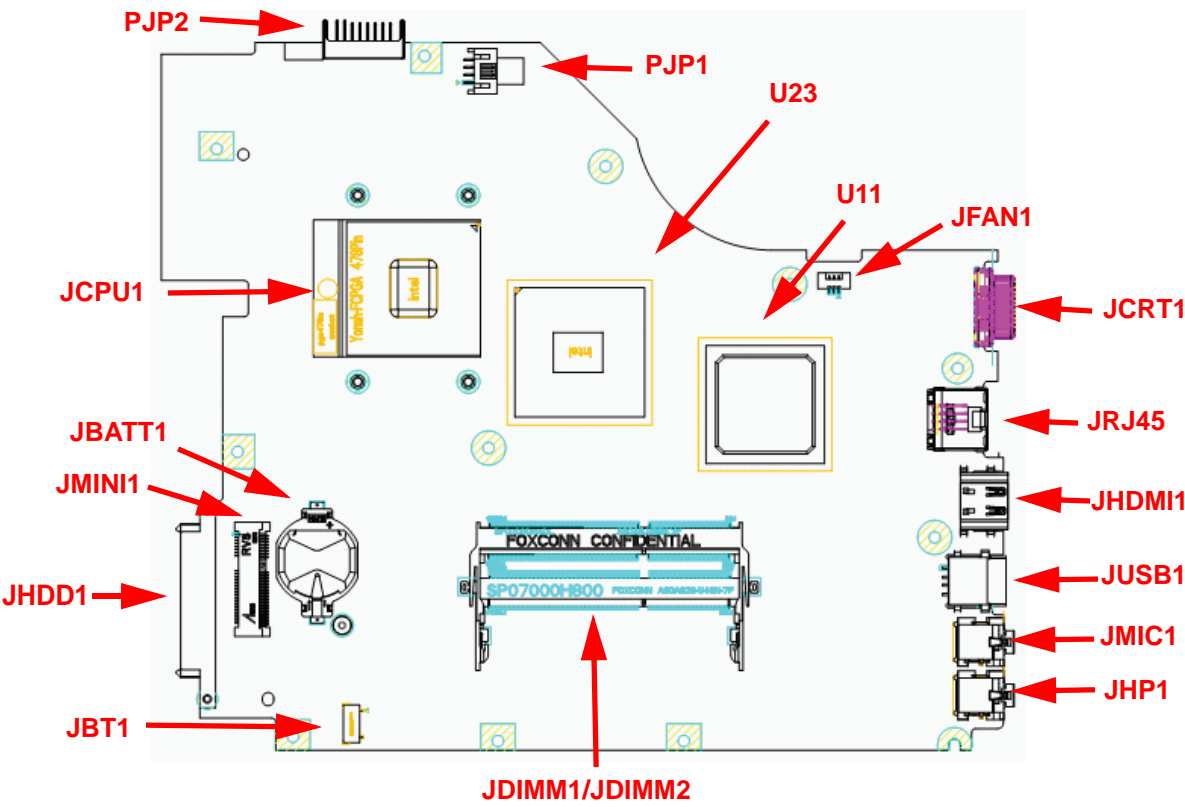
Jumper and Connector Locations

Top View



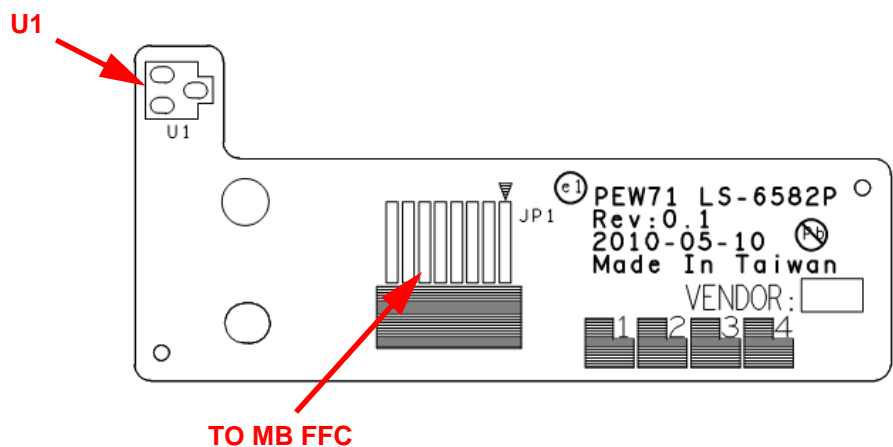
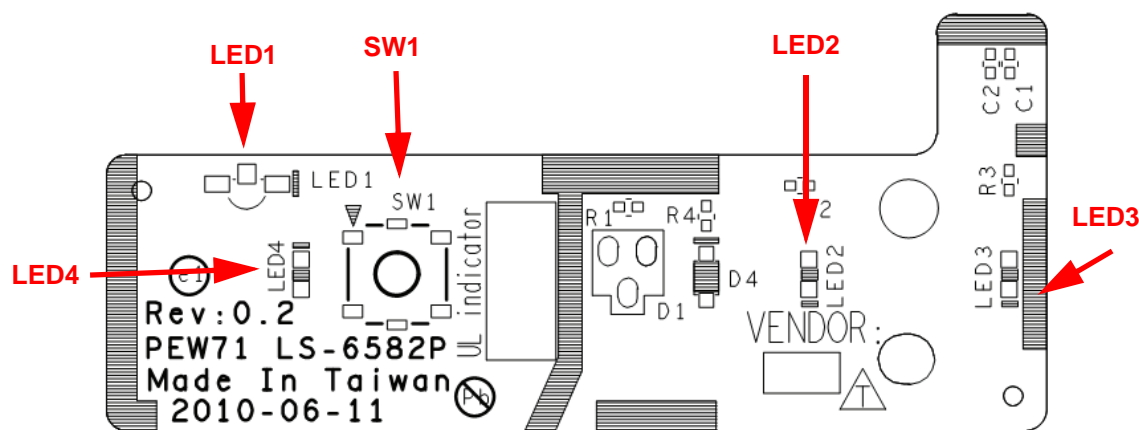
Item	Description	Item	Description
JLVDS1	LED/CCFL panel connector	JTP1	Touch pad(FFC) connector
JSPK1	Left speaker connector	JUSB2	USB board(FFC) connector
JSPK2	(Reserved Only)	SW3/SW4	Left button/right button
JLED1	Power board(FFC) connector	LED5/LED6	Power state indicator
JMIC2	Internal MIC connector	LED3/LED4	Battery charging indicator
JKB1	Keyboard connector	JCR1	Card reader connector
JODD1	ODD board(FFC) connector		

Bottom View



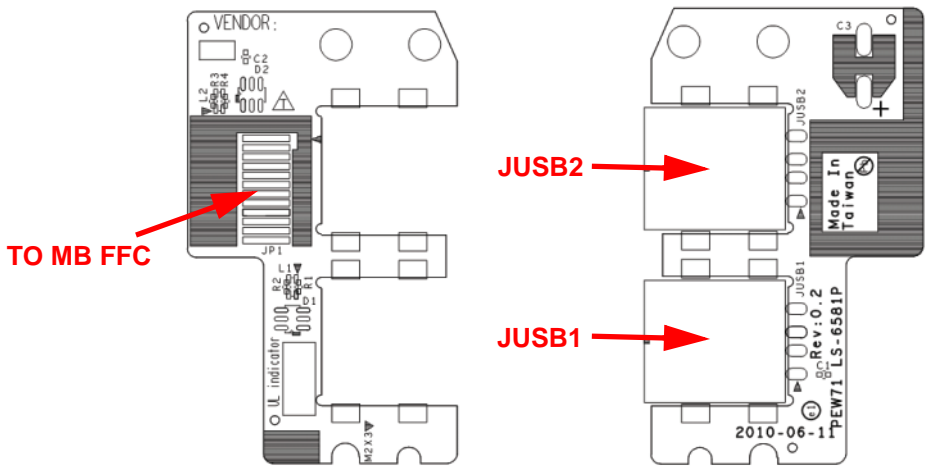
ITEM	DESCRIPTION	ITEM	DESCRIPTION
PJP2	Battery connector	JBT1	Bluetooth connector
PJP1	DC-IN jack	JHDD1	SATA HDD connector
JDIMM1 / JDIMM2	DDR3 Memory socket	JMINI1	WLAN connector
JCRT1	External CRT connector	JBATT1	RTC Battery
JRJ45	RJ45 LAN	JCPU1	CPU socket
JHDMI1	HDMI connector	JFAN1	Connect to FAN
JUSB1	USB connector	U23	MCH
JMIC1	External microphone connector	U11	ICH9
JHP1	External SPDIF connector		

Power Board



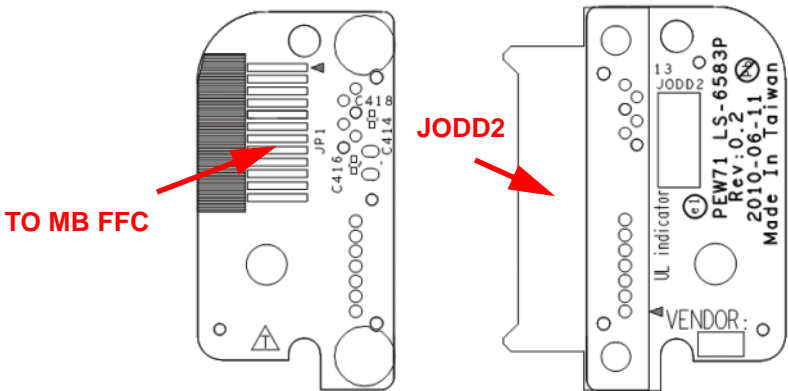
ITEM	DESCRIPTION	ITEM	DESCRIPTION
LED1	ON/OFF LED	LED4	ON/OFF LED
LED2	HDD LED	SW1	ON/OFF Button
LED3	Wireless LED	U1	Hall Sensor

USB/B Board



Item	Description
JUSB1/JUSB2	USB connector

ODD Board



Item	Description
JODD2	ODD connector

Clearing Password Check and BIOS Recovery

This section provides you with the standard operating procedures of clearing password and BIOS recovery for the Packard Bell ENTK36. The machine provides one Hardware Open Gap on main board for clearing password check, and one Hotkey for enabling BIOS Recovery.

Clearing Password Check

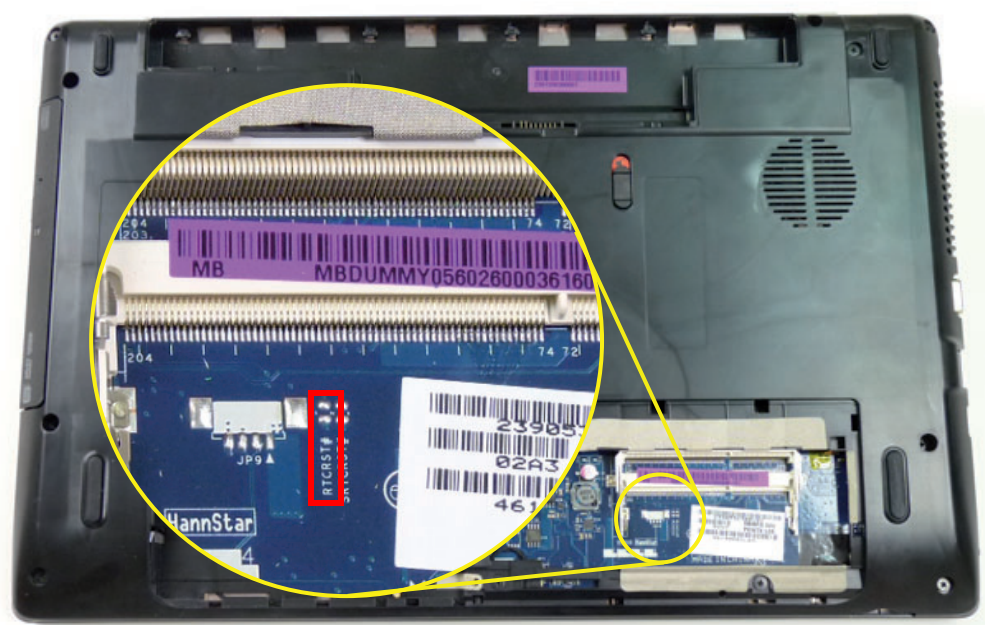
Steps for Clearing BIOS Password Check

If users set BIOS Password (Supervisor Password and/or User Password) for a security reason, BIOS will ask the password during systems POST or when systems enter to BIOS Setup menu. However, once it is necessary to bypass the password check, users need to short the HW Gap to clear the password by the following steps:

- 1. Power Off the system, and remove HDD, AC and Battery from the machine.
- 2. Disconnect the RTC Battery cable and locate the RTCRST# jumper.
- 3. Use an electric conductivity tool to short the two points of the HW Gap.
- 4. Plug in AC, keeping the HW Gap shorted. Press Power Button until BIOS POST is finished, then remove the tool from the HW Gap.
- 5. Restart the system. Press **F2** key to enter BIOS Setup menu.
- 6. If there is no Password request, BIOS Password is cleared. Otherwise, please follow the steps and try again.

NOTE: These steps are only for clearing BIOS Password (Supervisor Password and User Password).

Clear CMOS Jumper



Item	Description
RTCRST#	Clear CMOS Jumper

BIOS Recovery by Crisis Disk

BIOS Recovery Boot Block:

BIOS Recovery Boot Block is a special block of BIOS. It is used to boot up the system with minimum BIOS initialization. Users can enable this feature to restore the BIOS firmware to a successful one once the previous BIOS flashing process failed.

BIOS Recovery Hotkey:

The system provides a function hotkey: **Fn+Esc**, for enable BIOS Recovery process when system is powered on during BIOS POST. To use this function, it is strongly recommended to have the AC adapter and Battery present. If this function is enabled, the system will force the BIOS to enter a special BIOS block, called Boot Block.

Steps for BIOS Recovery from USB Storage:

Before doing this, prepare the Crisis USB key. The Crisis USB key could be made by executing the Crisis Disk program in another system with Windows XP OS.

Follow the steps below:

1. Format the USB storage disk using the Fast Format option.
2. Save ROM file (file name: **NEW70x64.fd**) to the root directory of USB storage. Make sure that there is no other BIOS file saved in the same directory.
3. Plug USB storage into USB port.
4. Press **Fn + ESC** button then plug in AC power.

The Power button flashes once.

5. Press **Power** button to initiate system CRISIS mode.

When CRISIS is complete, the system auto restarts with a workable BIOS.

6. Update the latest version BIOS for this machine by regular BIOS flashing process.

FRU (Field Replaceable Unit) List

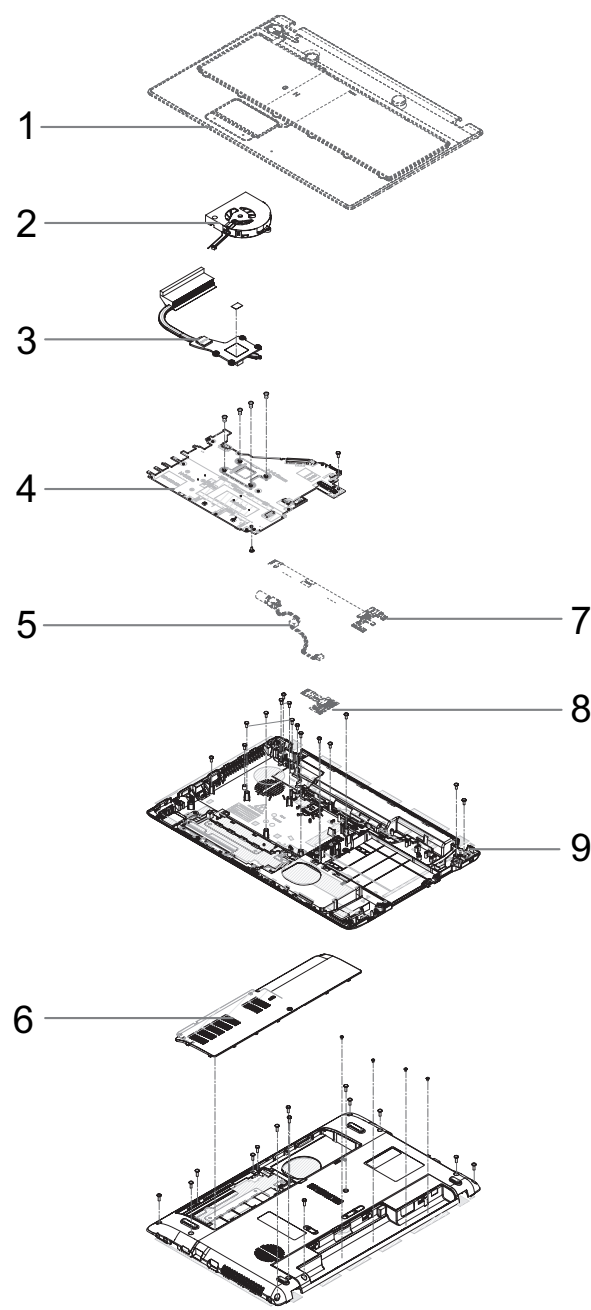
This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of Packard Bell ENTK36. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

Please note that WHEN ORDERING FRU PARTS, you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted on the printed Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

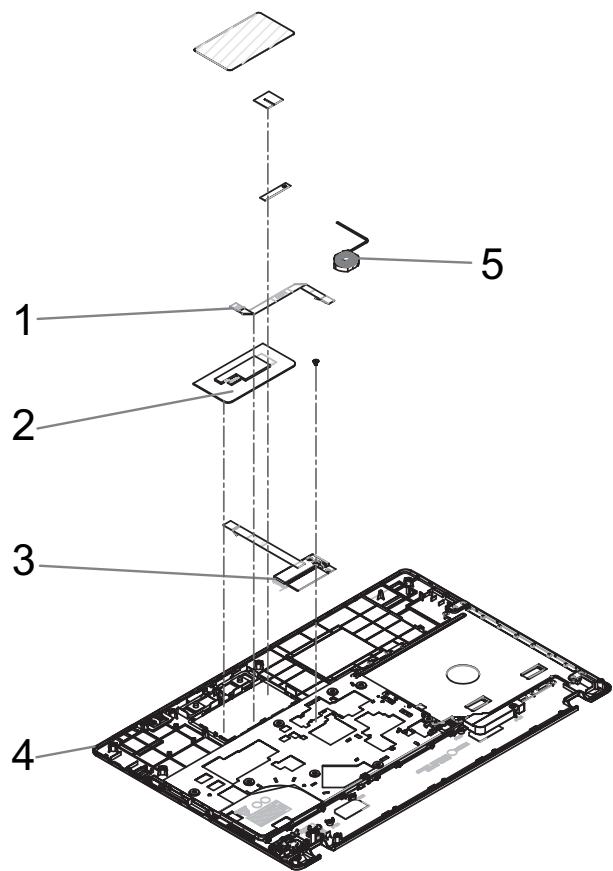
NV51M Exploded Diagrams

Main Assembly



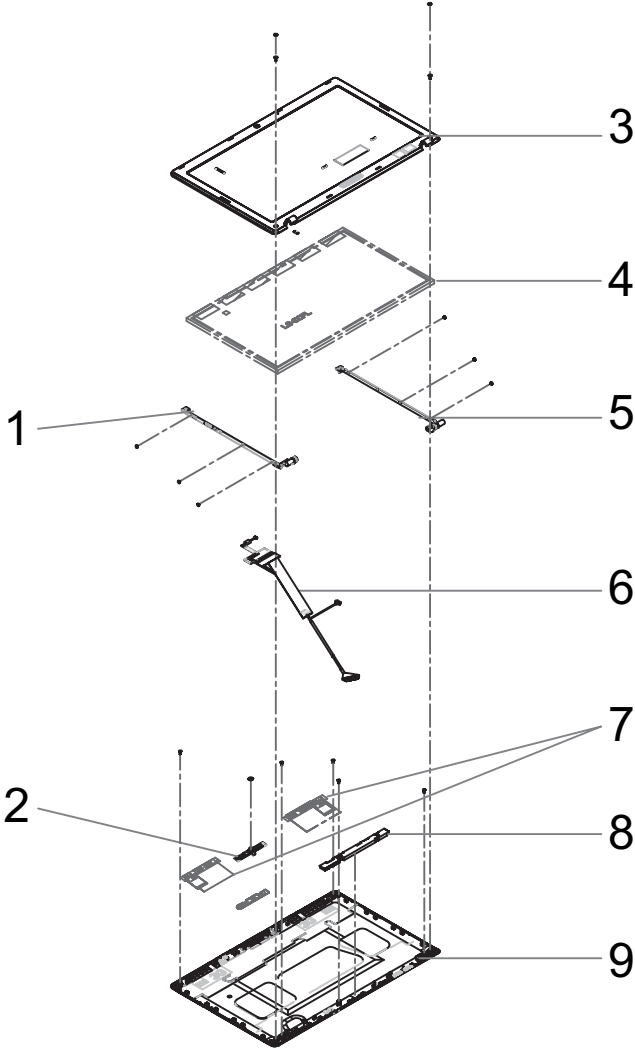
No.	Description	Acer Part No.	No.	Description	Acer Part No.
1	Upper Cover	60.BQ502.001	6	Lower Logic Door	42.R4F02.001
	Thermal Fan	23.R4G02.001	7	USB Board	55.R4F02.002
3	Thermal Module	60.R4G02.001	8	ODD Board	55.R4F02.003
4	Mainboard	MB.R4G02.001	9	Lower Cover	60.R4F02.002
5	DC-IN Assembly	50.R4F02.004			

Upper Assembly



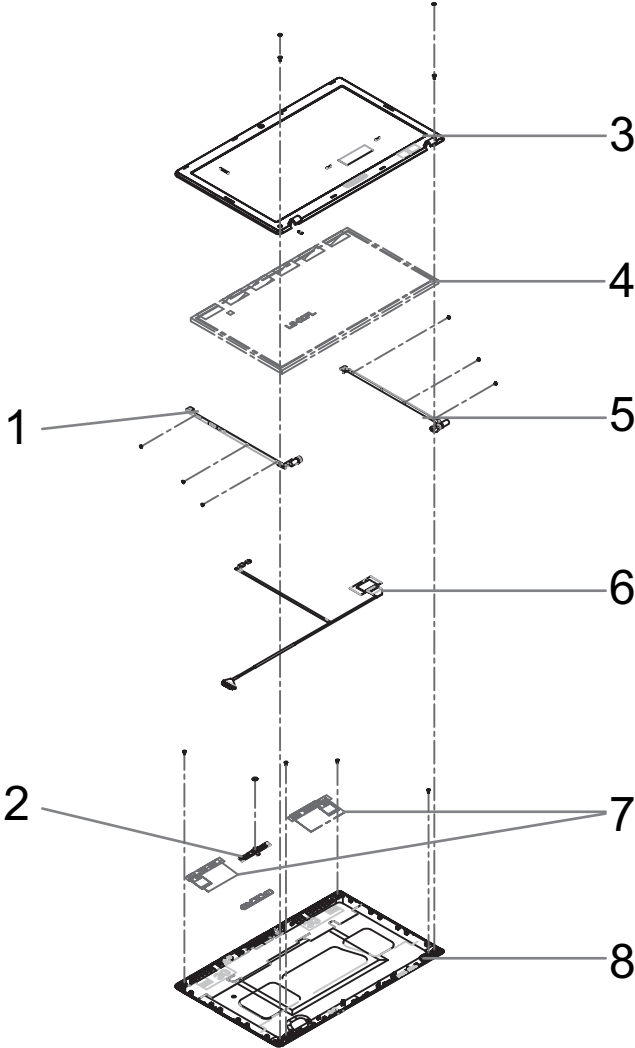
No.	Description	Acer Part No.
1	Powerboard	55.R4F02.001
2	Touchpad FFC	50.R4F02.003
3	Upper Cover	60.BQ502.001
4	Speaker	23.R4F02.003

LCD Assembly




No.	Description	Acer Part No.
1	LCD Bracket (Left)	33.R4F02.003
2	Camera	57.R4F02.001
3	LCD Bezel	60.WSG02.003
4	LCD Panel	LK.1560D.013
5	LCD Bracket (Right)	33.R4F02.003
6	LVDS Cable	50.R4F02.007
7	Antenna (Main)	50.R4F02.005
	Antenna (Aux)	50.R4F02.006
8	Inverter Board	19.R4F02.001
9	LCD Cover	60.WSG02.001

LED Assembly











No.	Description	Acer Part No.
1	LED Bracket (Left)	33.R4F02.004
2	Camera	57.R4F02.001
3	LED Bezel	60.BQ502.004
4	LED Panel	LK.15606.009
5	LED Bracket (Right)	33.R4F02.004
6	LVDS Cable	50.R4F02.009
7	Antenna (Main)	50.R4F02.005
	Antenna (Aux)	50.R4F02.006
8	LED Cover	60.BQ502.003





FRU List

Category	Description	Acer Part No.
ADAPTER		
	ADAPTER DELTA 65W 19V 1.7X5.5X11 YELLOW ADP-65JH DB A, LV5 LED LF	AP.06501.026
	ADAPTER DELTA 65W 19V 1.7X5.5X11 YELLOW ADP-65VH BA, LV5, LOW PROFILE LED LF	AP.06501.033
	ADAPTER LITE-ON 65W 19V 1.7X5.5X11 YELLOW PA-1650-22AC LV5 LED LF	AP.06503.024
	ADAPTER LITE-ON 65W 19V 1.7X5.5X11 YELLOW PA-1650-69AW, LV5, LOW PROFILE LED LF	AP.06503.029
	ADAPTER HIPRO 65W 19V 1.7X5.5X11 YELLOW HP-A0652R3B 1LF, LV5 LED LF	AP.0650A.012
	ADAPTER CHICONY POWER 65W 19V 1.7X5.5X11 YELLOW CPA09-A065N1, LV5, LOW PROFILE LED LF	AP.0650A.017
BATTERY		
	BATTERY SANYO AS10D LI-ION 3S2P SANYO 6 CELL 4400MAH MAIN COMMON ID:AS10D31	BT.00603.111
	BATTERY SONY AS10D LI-ION 3S2P SONY 6 CELL 4400MAH MAIN COMMON ID:AS10D41	BT.00604.049
	BATTERY PANASONIC AS10D LI-ION 3S2P PANASONIC 6 CELL 4400MAH MAIN COMMON ID:AS10D51	BT.00605.062
	BATTERY SAMSUNG AS10D LI-ION 3S2P SAMSUNG 6 CELL 4400MAH MAIN COMMON ID:AS10D61	BT.00606.008
	BATTERY SIMPLO AS10D LI-ION 3S2P PANASONIC 6 CELL 4400MAH MAIN COMMON ID:AS10D71	BT.00607.125
	BATTERY SIMPLO AS10D LI-ION 3S2P SAMSUNG 6 CELL 4400MAH MAIN COMMON ID:AS10D	BT.00607.127
BOARD		
	FOXCONN BLUETOOTH BRM 2046 BT3.0 (T60H928.33) F/W:861	BH.21100.008
	POWER BOARD-UMA	55.R4F02.001
	USB BOARD-UMA	55.R4F02.002
	ODD BOARD-UMA	55.R4F02.003

Category	Description	Acer Part No.
	LITEON WIRELESS LAN BROADCOM 43225 2X2 BGN	NI.23600.081
	LITEON WIRELESS LAN ATHERIS HB97 2X2 BGN (HM) WN6603AH	NI.23600.073
	FOXCONN WIRELESS LAN ATHEROS HB97 2X2 BGN (HM)	NI.23600.072
	LITEON WIRELESS LAN REALTEK 8192SE BGN WN6603LH(2X2 BGN)	NI.23600.065
	FOXCONN WIRELESS LAN ATHEROS HB95BG (HM) T77H121.10	NI.23600.077
CABLE		
	BLUE TOOTH CABLE-8PIN	50.R4F02.001
	TP FFC	50.R4F02.003
	DC-IN CABLE-65W	50.R4F02.004
	POWER CORD US 3 PIN	27.TAVV5.001
	POWER CORD EU 3 PIN	27.TAVV5.002
	POWER CORD AUS 3 PIN	27.TAVV5.003
	POWER CORD UK 3 PIN	27.TAVV5.004
	POWER CORD CHINA 3 PIN	27.TAVV5.005
	POWER CORD SWISS 3 PIN	27.TAVV5.006
	POWER CORD ITALIAN 3 PIN	27.TAVV5.007
	POWER CORD DENMARK 3 PIN	27.TAVV5.008
	POWER CORD JP 3 PIN	27.TAVV5.009
	POWER CORD SOUTH AFRICA 3 PIN	27.TAVV5.010
	POWER CORD KOREA 3 PIN	27.TAVV5.011
	POWER CORD ISRAEL 3 PIN	27.TAVV5.012
	POWER CORD INDIA 3 PIN	27.TAVV5.013
	POWER CORD TWN 3 PIN	27.TAVV5.014
	POWER CORD ARGENTINA 3 PIN	27.APV02.001
	POWER CORD 3 PIN BRAZIL	27.SAD02.001

Category	Description	Acer Part No.
CASE/COVER/BRACKET ASSEMBLY		
	UPPER CASE ASSY, INCL.TP - UMA - BLACK	60.BQ502.001
	UPPER CASE ASSY, INCL.TP - UMA - RED	60.BQ702.003
	LOWER CASE-UMA	60.R4F02.002
	UNILOAD DOOR-UMA	42.R4F02.001
	HDD CARRIER-UMA	33.R4F02.001
CPU/PROCESSOR		
	CPU INTEL CELERON 900 PGA 2.2G 1M 800 35W	KC.N0001.900
	CPU INTEL CELERON T3500 PGA 2.1G 1M 800 35W	KC.35001.CMT
	CPU INTEL PENTIUM DUAL-CORE T4500 2.3G 1M 800	KC.45001.DTP
HDD/HARD DISK DRIVE		
	HDD SEAGATE 2.5" 5400RPM 160GB ST9160314AS,9HH13C-189, SEAGATE(NEW PCB) SATA 8MB LF F/W:0001SDM1	KH.16001.045
	HDD HGST 2.5" 5400RPM 160GB HTS545016B9A300 PANTHER B SATA LF F/ W:C60F DISK IMBALANCE CRITERIA = 0.014G-CM	KH.16007.026
	HDD WD 2.5" 5400RPM 160GB WD1600BEVT-22A23T0 , WD, ML320S SATA 8MB LF F/ W:01.01A01	KH.16008.027
	HDD TOSHIBA 2.5" 5400RPM 250GB MK2565GSX, CAPRICORN BS, 320G/P SATA 8MB LF F/W:GJ002J	KH.25004.005
	HDD HGST 2.5" 5400RPM 250GB HTS545025B9A300 PANTHER B SATA LF F/ W:C60F DISK IMBALANCE CRITERIA = 0.014G-CM	KH.25007.016
	HDD SEAGATE 2.5" 5400RPM 320GB ST9320310AS,9RN132-188, CAMERON 320G/P SATA 8MB LF F/W:0001SDM1	KH.32001.019

Category	Description	Acer Part No.
	HDD HGST 2.5" 5400RPM 320GB HTS545032B9A300 PANTHER B SATA LF F/ W:C60F DISK IMBALANCE CRITERIA = 0.014G- CM	KH.32007.008
	HDD WD 2.5" 5400RPM 320GB WD3200BPVT- 22ZEST0, ML320S, 4K DRIVE SATA 8MB LF F/W: 01.01A01	KH.32008.022
	HDD SEAGATE 2.5" 5400RPM 500GB ST9500325AS,9HH134-189, WYATT WITH NEW PCB SATA 8MB LF F/W:0001SDM1	KH.50001.017
	HDD HGST 2.5" 5400RPM 500GB HTS545050B9A300 PANTHER B SATA LF F/ W:C60F DISK IMBALANCE CRITERIA = 0.014G- CM	KH.50007.010
	HDD TOSHIBA 2.5" 5400RPM 640GB MK6465GSX,CAPRICORN BS,320G/P SATA 8MB LF F/W:GJ002J	KH.64004.001
KEYBOARD		
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 103KS Black US International Texture	KB.I170G.197
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 103KS Black Greek Texture	KB.I170G.181
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 103KS Black Arabic Texture	KB.I170G.172
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 103KS Black Chinese Texture	KB.I170G.176
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 103KS Black Russian Texture	KB.I170G.189
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 103KS Black US International w/ Hebrew Texture	KB.I170G.198
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 103KS Black Thailand Texture	KB.I170G.194
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black UK Texture	KB.I170G.196
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black German Texture	KB.I170G.180
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Swiss/G Texture	KB.I170G.193
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Belgium Texture	KB.I170G.173
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Danish Texture	KB.I170G.177
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Italian Texture	KB.I170G.183
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black French Texture	KB.I170G.179
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Hungarian Texture	KB.I170G.182








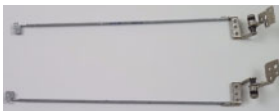
Category	Description	Acer Part No.
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Norwegian Texture	KB.I170G.187
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Portuguese Texture	KB.I170G.188
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Spanish Texture	KB.I170G.191
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black US w/ Canadian French Texture	KB.I170G.199
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Turkish Texture	KB.I170G.195
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Sweden Texture	KB.I170G.192
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black FR/Arabic Texture	KB.I170G.178
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Nordic Texture	KB.I170G.186
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black SLO/CRO Texture	KB.I170G.190
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black CZ/SK Texture	KB.I170G.175
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 104KS Black Brazilian Portuguese Texture	KB.I170G.174
	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard 107KS Black Japanese Texture	KB.I170G.184
DVD RW DRIVE		
	ODD SUPER-MULTI DRIVE MODULE	6M.WSS02.003
	ODD PLDS SUPER-MULTI DRIVE 12.7MM TRAY DL 8X DS-8A5SH LF+HF W/O BEZEL SATA WITH TI + ROHM SOLUTION (HF + WINDOWS 7)	KU.0080F.014
	ODD SONY SUPER-MULTI DRIVE 12.7MM TRAY DL 8X AD-7585H LF W/O BEZEL SATA (HF + WINDOWS 7)	KU.0080E.027
	ODD HLDS SUPER-MULTI DRIVE 12.7MM TRAY DL 8X GT32N (R5-2) LF W/O BEZEL SATA WITH RENESAS SOLUTION + PCC LD (HF + WINDOWS 7)	KU.0080D.055
	ODD BRACKET	33.R4F02.002
	ODD BEZEL-SM	42.R4F02.002

Category	Description	Acer Part No.
LCD		
	ASSY LCD MODULE 15.6"W WXGA GLARE W/ ANTENNA*2, CCD 1.3M, BLACK - PB	6M.BQA02.001
	LCD COVER IMR-BLACK PB	60.BQ502.002
	LCD BEZEL FOR W/CMOS PB	60.BQ502.004
	ANTENNA WLAN-MAIN	50.R4F02.005
	ANTENNA WLAN-AUX	50.R4F02.006
	LCD CABLE FOR W/CMOS	50.R4F02.007
	LCD BRACKET R&L	33.R4F02.003
	CAMERA 1.3M	57.R4F02.001
	INVERTER	19.R4F02.001
	CCFL LCD CMO 15.6"W WXGA GLARE N156B3- L0B LF 200NIT 10MS 500:1 (LOW COST)	LK.1560D.013
	CCFL LCD LPL 15.6"W WXGA GLARE LP156WH1-TLC1 LF 220NIT 16MS 400:1	LK.15608.013




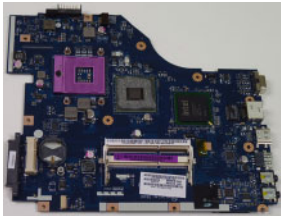

Category	Description	Acer Part No.
LCD		
	ASSY LCD MODULE 15.6"W WXGA GLARE W/ ANTENNA*2, CCD 1.3M, RED - PB	6M.BQL02.001
	LCD COVER IMR-RED PB	60.BQ702.001
	LCD BEZEL FOR W/CMOS PB	60.BQ502.004
	ANTENNA WLAN-MAIN	50.R4F02.005
	ANTENNA WLAN-AUX	50.R4F02.006
	LCD CABLE FOR W/CMOS	50.R4F02.007
	LCD BRACKET R&L	33.R4F02.003
	CAMERA 1.3M	57.R4F02.001
	INVERTER	19.R4F02.001
	CCFL LCD CMO 15.6"W WXGA GLARE N156B3- L0B LF 200NIT 10MS 500:1 (LOW COST)	LK.1560D.013
	CCFL LCD LPL 15.6"W WXGA GLARE LP156WH1-TLC1 LF 220NIT 16MS 400:1	LK.15608.013





Category	Description	Acer Part No.
LCD		
	ASSY LCD MODULE 15.6"W WXGA GLARE W/ ANTENNA*2, CCD 1.3M, BLACK - GTW	6M.WSS02.001
	LCD COVER IMR-BLACK GW	60.WSG02.001
	LCD BEZEL FOR W/CMOS GW	60.WSG02.003
	ANTENNA WLAN-MAIN	50.R4F02.005
	ANTENNA WLAN-AUX	50.R4F02.006
	LCD CABLE FOR W/CMOS	50.R4F02.007
	LCD BRACKET R&L	33.R4F02.003
	CAMERA 1.3M	57.R4F02.001
	INVERTER	19.R4F02.001
	CCFL LCD CMO 15.6"W WXGA GLARE N156B3- L0B LF 200NIT 10MS 500:1 (LOW COST)	LK.1560D.013
	CCFL LCD LPL 15.6"W WXGA GLARE LP156WH1-TLC1 LF 220NIT 16MS 400:1	LK.15608.013

Category	Description	Acer Part No.
LCD		
	ASSY LED LCD MODULE 15.6"W WXGA GLARE W/ANTENNA*2, CCD 1.3M, BLACK - PB	6M.BQA02.002
	LED LCD COVER IMR-BLACK PB	60.BQ502.003
	LCD BEZEL FOR W/CMOS PB	60.BQ502.004
	ANTENNA WLAN-MAIN	50.R4F02.005
	ANTENNA WLAN-AUX	50.R4F02.006
	LED CABLE FOR W/CMOS	50.R4F02.009
	LED BRACKET R&L	33.R4F02.004
	CAMERA 1.3M	57.R4F02.001

Category	Description	Acer Part No.
	LED LCD SAMSUNG 15.6"W WXGA GLARE LTN156AT02-A04 LF 220NIT 8MS 500:1	LK.15606.009
	LED LCD BOE 15.6"W WXGA GLARE HT156WXB-500 LF 220NIT 8MS 500:1	LK.1560E.004
	LED LCD AUO 15.6"W WXGA GLARE B156XW02 V2 LF 200NIT 8MS 500:1 (POWER SAVING)	LK.15605.010
	LED LCD CMO 15.6"W WXGA GLARE N156B6- L0B LF 220NIT 8MS 650:1	LK.1560D.010
	LED LCD CPT 15.6"W WXGA GLARE CLAA156WB11A LF 220NIT 8MS 600:1	LK.1560A.004
LCD		
	ASSY LED LCD MODULE 15.6"W WXGA GLARE W/ANTENNA*2, CCD 1.3M, RED - PB	6M.BQL02.002
	LED LCD COVER IMR-RED PB	60.BQ702.002
	LCD BEZEL FOR W/CMOS PB	60.BQ502.004
	ANTENNA WLAN-MAIN	50.R4F02.005
	ANTENNA WLAN-AUX	50.R4F02.006
	LED CABLE FOR W/CMOS	50.R4F02.009
	LED BRACKET R&L	33.R4F02.004

Category	Description	Acer Part No.
	CAMERA 1.3M	57.R4F02.001
	LED LCD SAMSUNG 15.6"W WXGA GLARE LTN156AT02-A04 LF 220NIT 8MS 500:1	LK.15606.009
	LED LCD BOE 15.6"W WXGA GLARE HT156WXB-500 LF 220NIT 8MS 500:1	LK.1560E.004
	LED LCD AUO 15.6"W WXGA GLARE B156XW02 V2 LF 200NIT 8MS 500:1 (POWER SAVING)	LK.15605.010
	LED LCD CMO 15.6"W WXGA GLARE N156B6- L0B LF 220NIT 8MS 650:1	LK.1560D.010
	LED LCD CPT 15.6"W WXGA GLARE CLAA156WB11A LF 220NIT 8MS 600:1	LK.1560A.004
LCD		
	ASSY LED LCD MODULE 15.6"W WXGA GLARE W/ANTENNA*2, CCD 1.3M, BLACK - GTW	6M.WSS02.002
	LED LCD COVER IMR-BLACK GW	60.WSG02.002
	LCD BEZEL FOR W/CMOS GW	60.WSG02.003
	ANTENNA WLAN-MAIN	50.R4F02.005
	ANTENNA WLAN-AUX	50.R4F02.006
	LED CABLE FOR W/CMOS	50.R4F02.009

Category	Description	Acer Part No.
	LED BRACKET R&L	33.R4F02.004
	CAMERA 1.3M	57.R4F02.001
	LED LCD SAMSUNG 15.6"W WXGA GLARE LTN156AT02-A04 LF 220NIT 8MS 500:1	LK.15606.009
	LED LCD BOE 15.6"W WXGA GLARE HT156WXB-500 LF 220NIT 8MS 500:1	LK.1560E.004
	LED LCD AUO 15.6"W WXGA GLARE B156XW02 V2 LF 200NIT 8MS 500:1 (POWER SAVING)	LK.15605.010
	LED LCD CMO 15.6"W WXGA GLARE N156B6- L0B LF 220NIT 8MS 650:1	LK.1560D.010
	LED LCD CPT 15.6"W WXGA GLARE CLAA156WB11A LF 220NIT 8MS 600:1	LK.1560A.004
MAINBOARD		
	MAINBOARD AS5336 INTEL GL40 V1.0 LF	MB.R4G02.001
MEMORY		
	MEMORY HYNIX SO-DIMM DDRIII 1333 1GB HMT112S6TFR8C-H9 LF 128*8 0.055UM	KN.1GB0G.026
	MEMORY ELPIDA SO-DIMM DDRIII 1333 1GB EBJ10UE8BDS0-DJ-F LF 128*8 0.065UM	KN.1GB09.015
	MEMORY KINGSTON SO-DIMM DDRIII 1333 1GB ACR128X64D3S1333C9 LF 128*8 0.065UM	KN.1GB07.004
	MEMORY SAMSUNG SO-DIMM DDRIII 1333 1GB M471B2873FHS-CH9 LF 128*8 46NM	KN.1GB0B.035
	MEMORY ELPIDA SO-DIMM DDRIII 1333 2GB EBJ21UE8BFU0-DJ-F LF 128*8 0.065UM	KN.2GB09.009
	MEMORY MICRON SO-DIMM DDRIII 1333 2GB MT8JSF25664HZ-1G4D1 LF 256*8 0.055UM	KN.2GB04.017
	MEMORY HYNIX SO-DIMM DDRIII 1333 2GB HMT125S6TFR8C-H9 LF 128*8 0.055UM	KN.2GB0G.016
	MEMORY HYNIX SO-DIMM DDRIII 1333 2GB HMT325S6BFR8C-H9 LF 256*8 46NM	KN.2GB0G.018
	MEMORY SAMSUNG SO-DIMM DDRIII 1333 2GB M471B5673FH0-CH9 LF 128*8 46NM	KN.2GB0B.023
	MEMORY SAMSUNG SO-DIMM DDRIII 1333 2GB M471B5773CHS-CH9 LF 256*8 46NM	KN.2GB0B.026
	MEMORY KINGSTON SO-DIMM DDRIII 1333 2GB ACR256X64D3S1333C9 LF 128*8 0.065UM	KN.2GB07.004
	MEMORY ELPIDA SO-DIMM DDRIII 1333 2GB EBJ21UE8BDS0-DJ-F LF 128*8 0.065UM	KN.2GB09.007

Category	Description	Acer Part No.
HEATSINK		
	THERMAL MODULE-UMA W/O FAN	60.R4G02.001
	FAN-UMA	23.R4G02.001
SPEAKER		
	MIC SET-UMA	23.R4F02.002
	SPEAKER L	23.R4F02.003
MISCELLANEOUS		
	LCD SCREW PAD	47.R4F02.001

Screw List

Category	Description	Acer Part No.
	SCREW 2.5D 5L K 5.5D ZK NL + CR3	86.R4F02.001
	SCREW 2.45D 8.0L K 5.5D 0.8T ZK NL	86.R4F02.002
	SCREW 2.5D 6L K 5.5D NI NL	86.R4F02.003
	SCREW 1.98D 3.0L K 4.6D 0.8T ZK NL	86.R4F02.004
	SCREW 3.0D 3.0L K 4.9D NI	86.R4F02.005
	SCREW 2.5D 3.2L K 6D NI	86.R4F02.006
	SCREW 2.0D 3L K 3.5D ZK NL	86.R4F02.007
	SCREW ASSY CPU THERMAL	86.R4F02.008

Model Definition and Configuration

ENTK36

Model	Country	Acer Part No	RO	Description
ENTK36 - 902G16Mnkk	Chile	LX.BQA08.001	EMEA	ENTK36-902G16Mnkk EM W7ST32EMBSCl3 UMACkk_34 1*2G/160/6L2.2/2R/ CB_bgn_1.3C_AUk_ES31 EASYNOTE_TK36-AV-001CL
ENTK36 - 902G16Mnkk	Nordic	LX.BQA02.009	EMEA	ENTK36-902G16Mnkk W7HP64BTND1 UMACkk_34 1*2G/160/6L2.2/2R/ CB_bgn_1.3C_AUk_ENU3 EASYNOTE_TK36-AV-313NCD
ENTK36 - 902G25Mnkk	Chile	LX.BQA0C.001	EMEA	ENTK36-902G25Mnkk LINPUS MBCL3 UMACkk_34 1*2G/250/ 6L2.2/2R/ CB_bgn_1.3C_AUk_XS11 EASYNOTE_F4036-AV-003CL
ENTK36 - 902G32Mnkk	Czech	LX.BQA02.002	EMEA	ENTK36-902G32Mnkk W7HP64BSCZ2 UMACkk_34 1*2G/320_5.4k_4k/6L2.2/2R/ CB_bgn_1.3C_AUk_SK11 EASYNOTE_TK36-BV-112CZ
ENTK36 - 903G32Mnkk	Czech	LX.BQA02.003	EMEA	ENTK36-903G32Mnkk W7HP64BSCZ2 UMACkk_34 2G+1G/320_5.4k_4k/6L2.2/2R/ CB_bgn_1.3C_AUk_SK11 EASYNOTE_TK36-BV-113CZ
ENTK36 - 903G32Mnkk	France	LX.BQA02.001	EMEA	ENTK36-903G32Mnkk W7HP64BSFR1 UMACkk_34 2G+1G/320/6L2.2/2R/ CB_bgn_1.3C_AUk_FR51 EASYNOTE_TK36-AU-001FR
ENTK36 - 903G32Mnkk	Nordic	LX.BQA02.008	EMEA	ENTK36-903G32Mnkk W7HP64BTND1 UMACkk_34 2G+1G/320/6L2.2/2R/ CB_bgn_1.3C_AUk_ENU3 EASYNOTE_TK36-AV-331NC
ENTK36 - 904G25Mnkk	WW	S2.BQA02.003	WW	ENTK36-904G25Mnkk W7HP64BSWW2 UMACkk_34 2*2G/250/BT/6L2.2/2R/ CB_bgn_1.3C_AUk_EN11
ENTK36 - 904G32Mnkk	WW	S2.BQA02.002	WW	ENTK36-904G32Mnkk W7HP64BSWW2 UMACkk_34 2*2G/320/BT/6L2.2/2R/ CB_bgn_1.3C_AUk_EN11

Model	Country	Acer Part No	RO	Description
ENTK36 - T352G50Mnkk	Czech	LX.BQA02.004	EMEA	ENTK36-T352G50Mnkk W7HP64BSCZ2 UMACkk_34 1*2G/500_L/6L2.2/2R/ CB_bgn_1.3C_AUk_SK11 EASYNOTE_TK36-BV-331CZ
ENTK36 - T353G25Mnkk	Belgium	LX.BQA02.011	EMEA	ENTK36-T353G25Mnkk W7HP64BTBE1 UMACkk_34 2G+1G/250/6L2.2/2R/ CB_bgn_1.3C_AUk_ENT1 EASYNOTE_TK36-AV-005BE
ENTK36 - T353G25Mnkk	Spain	LX.BQA02.007	EMEA	ENTK36-T353G25Mnkk W7HP64BTES1 UMACkk_34 2G+1G/250/6L2.2/2R/ CB_bgn_1.3C_AUk_ESA2 EASYNOTE_TK36-AV-001SP
ENTK36 - T353G25Mnkk	Spain	LX.BQA02.012	EMEA	ENTK36-T353G25Mnkk W7HP64BSES1 UMACkk_34 2G+1G/250/6L2.2/2R/ CB_bgn_1.3C_AUk_ES31 EASYNOTE_TK36-AU-350SP
ENTK36 - T353G32Mnkk	Czech	LX.BQA02.005	EMEA	ENTK36-T353G32Mnkk W7HP64BSCZ2 UMACkk_34 2G+1G/320_5.4k_4k/6L2.2/2R/ CB_bgn_1.3C_AUk_SK11 EASYNOTE_TK36-BV-312CZ
ENTK36 - T353G32Mnkk	Italy	LX.BQA02.010	EMEA	ENTK36-T353G32Mnkk W7HP64BSIT1 UMACkk_34 2G+1G/320/6L2.2/2R/ CB_bgn_1.3C_AUk_ITB1 EASYNOTE_TK36-AV-001IT
ENTK36 - T354G25Mnkk	WW	S2.BQA02.004	WW	ENTK36-T354G25Mnkk W7HP64BSWW2 UMACkk_34 2*2G/250/BT/6L2.2/2R/ CB_bgn_1.3C_AUk_EN11
ENTK36 - T354G32Mnkk	WW	S2.BQA02.001	WW	ENTK36-T354G32Mnkk W7HP64BSWW2 UMACkk_34 2*2G/320/BT/6L2.2/2R/ CB_bgn_1.3C_AUk_EN11
ENTK36 - T354G50Mnkk	Czech	LX.BQA02.006	EMEA	ENTK36-T354G50Mnkk W7HP64BSCZ2 UMACkk_34 2*2G/500_L/6L2.2/2R/ CB_bgn_1.3C_AUk_SK11 EASYNOTE_TK36-BV-333CZ
ENTK37 - 902G32Mnrr	Czech	LX.BQL02.001	EMEA	ENTK37-902G32Mnrr W7HP64BSCZ2 UMACrr_34 1*2G/ 320_5.4k_4k/6L2.2/2R/ CB_bgn_1.3C_AUr_SK11 EASYNOTE_TK37-BV-112CZ
ENTK37 - 903G32Mnrr	Nordic	LX.BQL02.003	EMEA	ENTK37-903G32Mnrr W7HP64BTND1 UMACrr_34 2G+1G/320/6L2.2/2R/ CB_bgn_1.3C_AUr_ENU3 EASYNOTE_TK37-AV-331NC

Model	Country	Acer Part No	RO	Description
ENTK37 - 904G32Mnrr	WW	S2.BQL02.001	WW	ENTK37-904G32Mnrr W7HP64BSWW2 UMACrr_34 2*2G/320/BT/6L2.2/2R/ CB_bgn_1.3C_AUr_EN11
ENTK37 - T353G32Mnrr	Czech	LX.BQL02.002	EMEA	ENTK37-T353G32Mnrr W7HP64BSCZ2 UMACrr_34 2G+1G/320_5.4k_4k/6L2.2/2R/ CB_bgn_1.3C_AUr_SK11 EASYNOTE_TK37-BV-312CZ
ENTK37 - T354G50Mnrr	WW	S2.BQL02.002	WW	ENTK37-T354G50Mnrr W7HP64BSWW2 UMACrr_34 2*2G/500_L/BT/6L2.2/2R/ CB_bgn_1.3C_AUr_EN11

Model	Country	Acer Part No	CPU	LCD	Memory 1
ENTK36 - 902G16Mnkk	Chile	LX.BQA08.001	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - 902G16Mnkk	Nordic	LX.BQA02.009	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - 902G25Mnkk	Chile	LX.BQA0C.001	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - 902G32Mnkk	Czech	LX.BQA02.002	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - 903G32Mnkk	Czech	LX.BQA02.003	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - 903G32Mnkk	France	LX.BQA02.001	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - 903G32Mnkk	Nordic	LX.BQA02.008	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - 904G25Mnkk	WW	S2.BQA02.003	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - 904G32Mnkk	WW	S2.BQA02.002	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - T352G50Mnkk	Czech	LX.BQA02.004	CMT3500	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - T353G25Mnkk	Belgium	LX.BQA02.011	CMT3500	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - T353G25Mnkk	Spain	LX.BQA02.007	CMT3500	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - T353G25Mnkk	Spain	LX.BQA02.012	CMT3500	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - T353G32Mnkk	Czech	LX.BQA02.005	CMT3500	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - T353G32Mnkk	Italy	LX.BQA02.010	CMT3500	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - T354G25Mnkk	WW	S2.BQA02.004	CMT3500	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - T354G32Mnkk	WW	S2.BQA02.001	CMT3500	NLED15.6 WXGAG	SO2GBIII10
ENTK36 - T354G50Mnkk	Czech	LX.BQA02.006	CMT3500	NLED15.6 WXGAG	SO2GBIII10

Model	Country	Acer Part No	CPU	LCD	Memory 1
ENTK37 - 902G32Mnrr	Czech	LX.BQL02.001	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK37 - 903G32Mnrr	Nordic	LX.BQL02.003	CM900	N15.6WX GAG	SO2GBIII10
ENTK37 - 904G32Mnrr	WW	S2.BQL02.001	CM900	NLED15.6 WXGAG	SO2GBIII10
ENTK37 - T353G32Mnrr	Czech	LX.BQL02.002	CMT3500	NLED15.6 WXGAG	SO2GBIII10
ENTK37 - T354G50Mnrr	WW	S2.BQL02.002	CMT3500	N15.6WX GAG	SO2GBIII10

Model	Country	Acer Part No	Memory 2	HDD 1(GB)	Extra SW1	Wireless LAN1
ENTK36 - 902G16Mnkk	Chile	LX.BQA08.001	N	N160GB5 .4KS	NIS	3rd WiFi 2x2 BGN
ENTK36 - 902G16Mnkk	Nordic	LX.BQA02.009	N	N160GB5 .4KS	NIS	3rd WiFi 2x2 BGN
ENTK36 - 902G25Mnkk	Chile	LX.BQA0C.001	N	N250GB5 .4KS	N	3rd WiFi 2x2 BGN
ENTK36 - 902G32Mnkk	Czech	LX.BQA02.002	N	N320GB5 .4KS_4K	NIS	3rd WiFi 2x2 BGN
ENTK36 - 903G32Mnkk	Czech	LX.BQA02.003	SO1GBIII10	N320GB5 .4KS_4K	NIS	3rd WiFi 2x2 BGN
ENTK36 - 903G32Mnkk	France	LX.BQA02.001	SO1GBIII10	N320GB5 .4KS_4K	NIS	3rd WiFi 2x2 BGN
ENTK36 - 903G32Mnkk	Nordic	LX.BQA02.008	SO1GBIII10	N320GB5 .4KS	NIS	3rd WiFi 2x2 BGN
ENTK36 - 904G25Mnkk	WW	S2.BQA02.003	SO2GBIII10	N250GB5 .4KS	NIS	3rd WiFi 2x2 BGN
ENTK36 - 904G32Mnkk	WW	S2.BQA02.002	SO2GBIII10	N320GB5 .4KS_4K	NIS	3rd WiFi 2x2 BGN
ENTK36 - T352G50Mnkk	Czech	LX.BQA02.004	N	N500GB5 .4KS	NIS	3rd WiFi 2x2 BGN
ENTK36 - T353G25Mnkk	Belgium	LX.BQA02.011	SO1GBIII10	N250GB5 .4KS	NIS	3rd WiFi 2x2 BGN
ENTK36 - T353G25Mnkk	Spain	LX.BQA02.007	SO1GBIII10	N250GB5 .4KS	NIS	3rd WiFi 2x2 BGN
ENTK36 - T353G25Mnkk	Spain	LX.BQA02.012	SO1GBIII10	N250GB5 .4KS	NIS	3rd WiFi 2x2 BGN
ENTK36 - T353G32Mnkk	Czech	LX.BQA02.005	SO1GBIII10	N320GB5 .4KS_4K	NIS	3rd WiFi 2x2 BGN
ENTK36 - T353G32Mnkk	Italy	LX.BQA02.010	SO1GBIII10	N320GB5 .4KS_4K	NIS	3rd WiFi 2x2 BGN
ENTK36 - T354G25Mnkk	WW	S2.BQA02.004	SO2GBIII10	N250GB5 .4KS	NIS	3rd WiFi 2x2 BGN
ENTK36 - T354G32Mnkk	WW	S2.BQA02.001	SO2GBIII10	N320GB5 .4KS_4K	NIS	3rd WiFi 2x2 BGN
ENTK36 - T354G50Mnkk	Czech	LX.BQA02.006	SO2GBIII10	N500GB5 .4KS	NIS	3rd WiFi 2x2 BGN

Model	Country	Acer Part No	Memory 2	HDD 1(GB)	Extra SW1	Wireless LAN1
ENTK37 - 902G32Mnrr	Czech	LX.BQL02.001	N	N320GB5 .4KS_4K	NIS	3rd WiFi 2x2 BGN
ENTK37 - 903G32Mnrr	Nordic	LX.BQL02.003	SO1GBIII10	N320GB5 .4KS	NIS	3rd WiFi 2x2 BGN
ENTK37 - 904G32Mnrr	WW	S2.BQL02.001	SO2GBIII10	N320GB5 .4KS_4K	NIS	3rd WiFi 2x2 BGN
ENTK37 - T353G32Mnrr	Czech	LX.BQL02.002	SO1GBIII10	N320GB5 .4KS_4K	NIS	3rd WiFi 2x2 BGN
ENTK37 - T354G50Mnrr	WW	S2.BQL02.002	SO2GBIII10	N500GB5 .4KS	NIS	3rd WiFi 2x2 BGN

Model	Country	Acer Part No	Bluetooth	Battery	Adapter	Camera
ENTK36 - 902G16Mnkk	Chile	LX.BQA08.001	N	6CELL2.2	65W	1.3M
ENTK36 - 902G16Mnkk	Nordic	LX.BQA02.009	N	6CELL2.2	65W	1.3M
ENTK36 - 902G25Mnkk	Chile	LX.BQA0C.001	N	6CELL2.2	65W	1.3M
ENTK36 - 902G32Mnkk	Czech	LX.BQA02.002	N	6CELL2.2	65W	1.3M
ENTK36 - 903G32Mnkk	Czech	LX.BQA02.003	N	6CELL2.2	65W	1.3M
ENTK36 - 903G32Mnkk	France	LX.BQA02.001	N	6CELL2.2	65W	1.3M
ENTK36 - 903G32Mnkk	Nordic	LX.BQA02.008	N	6CELL2.2	65W	1.3M
ENTK36 - 904G25Mnkk	WW	S2.BQA02.003	BT 3.0	6CELL2.2	65W	1.3M
ENTK36 - 904G32Mnkk	WW	S2.BQA02.002	BT 3.0	6CELL2.2	65W	1.3M
ENTK36 - T352G50Mnkk	Czech	LX.BQA02.004	N	6CELL2.2	65W	1.3M
ENTK36 - T353G25Mnkk	Belgium	LX.BQA02.011	N	6CELL2.2	65W	1.3M
ENTK36 - T353G25Mnkk	Spain	LX.BQA02.007	N	6CELL2.2	65W	1.3M
ENTK36 - T353G25Mnkk	Spain	LX.BQA02.012	N	6CELL2.2	65W	1.3M
ENTK36 - T353G32Mnkk	Czech	LX.BQA02.005	N	6CELL2.2	65W	1.3M
ENTK36 - T353G32Mnkk	Italy	LX.BQA02.010	N	6CELL2.2	65W	1.3M
ENTK36 - T354G25Mnkk	WW	S2.BQA02.004	BT 3.0	6CELL2.2	65W	1.3M
ENTK36 - T354G32Mnkk	WW	S2.BQA02.001	BT 3.0	6CELL2.2	65W	1.3M
ENTK36 - T354G50Mnkk	Czech	LX.BQA02.006	N	6CELL2.2	65W	1.3M

Model	Country	Acer Part No	Bluetooth	Battery	Adapter	Camera
ENTK37 - 902G32Mnrr	Czech	LX.BQL02.001	N	6CELL2.2	65W	1.3M
ENTK37 - 903G32Mnrr	Nordic	LX.BQL02.003	N	6CELL2.2	65W	1.3M
ENTK37 - 904G32Mnrr	WW	S2.BQL02.001	BT 3.0	6CELL2.2	65W	1.3M
ENTK37 - T353G32Mnrr	Czech	LX.BQL02.002	N	6CELL2.2	65W	1.3M
ENTK37 - T354G50Mnrr	WW	S2.BQL02.002	BT 3.0	6CELL2.2	65W	1.3M

Test Compatible Components

This computer's compatibility is tested and verified by Acer's internal testing department. All of its system functions are tested under Windows® 7 environment.

Refer to the following lists for components, adapter cards, and peripherals which have passed these tests. Regarding configuration, combination and test procedures, please refer to the Packard Bell EasyNote TM81/82/83/94 Compatibility Test Report released by the Acer Mobile System Testing Department.

Microsoft® Windows® 7 Environment Test

Brand	Type	Description	Acer Part No
Adapter			
Chicony Power	65W	Adapter Chicony Power 65W 19V 1.7x5.5x11 Yellow CPA09-A065N1, LV5, low profile LED LF	AP.0650A.017
DELTA	65W	Adapter DELTA 65W 19V 1.7x5.5x11 Yellow ADP-65JH DB A, LV5 LED LF	AP.06501.026
DELTA	65W	Adapter DELTA 65W 19V 1.7x5.5x11 Yellow ADP-65VH BA, LV5, Low profile LED LF	AP.06501.033
HIPRO	65W	Adapter HIPRO 65W 19V 1.7x5.5x11 Yellow HP-A0652R3B 1LF, LV5 LED LF	AP.0650A.012
LITE-ON	65W	Adapter LITE-ON 65W 19V 1.7x5.5x11 Yellow PA-1650-22AC LV5 LED LF	AP.06503.024
LITE-ON	65W	Adapter LITE-ON 65W 19V 1.7x5.5x11 Yellow PA-1650-69AW, LV5, Low profile LED LF	AP.06503.029
Audio Codec			
Realtek	ALC272X	Realtek Audio Codec ALC272X	LZ.21000.045
Battery			
PANASONIC	4CELL2.8	Battery PANASONIC AS10D Li-Ion 4S1P PANASONIC 4 cell 2800mAh Main COMMON ID:AS10D56	BT.00405.013
PANASONIC	6CELL2.2	Battery PANASONIC AS10D Li-Ion 3S2P PANASONIC 6 cell 4400mAh Main COMMON ID:AS10D51	BT.00605.062
SAMSUNG	6CELL2.2	Battery SAMSUNG AS10D Li-Ion 3S2P SAMSUNG 6 cell 4400mAh Main COMMON ID:AS10D61	BT.00606.008
SANYO	6CELL2.2	Battery SANYO AS10D Li-Ion 3S2P SANYO 6 cell 4400mAh Main COMMON ID:AS10D31	BT.00603.111
SIMPLO	6CELL2.2	Battery SIMPLO AS10D Li-Ion 3S2P LGC 6 cell 4400mAh Main COMMON ID:AS10D73	BT.00607.126
SIMPLO	6CELL2.2	Battery SIMPLO AS10D Li-Ion 3S2P PANASONIC 6 cell 4400mAh Main COMMON ID:AS10D71	BT.00607.125
SIMPLO	6CELL2.2	Battery SIMPLO AS10D Li-Ion 3S2P SAMSUNG 6 cell 4400mAh Main COMMON ID:AS10D	BT.00607.127
SONY	6CELL2.2	Battery SONY AS10D Li-Ion 3S2P SONY 6 cell 4400mAh Main COMMON ID:AS10D41	BT.00604.049
Bluetooth			
Foxconn	BT 2.1	Foxconn Bluetooth ATH AR3011	BH.21100.005
Foxconn	BT 2.1	Foxconn Bluetooth BRM 2046 BT2.1 (T60H928.33) f/w:861	BH.21100.004
Foxconn	BT 2.1	Foxconn Bluetooth BRM 2070 (T77H114.01)	BH.21100.007

Brand	Type	Description	Acer Part No
Foxconn	BT 3.0	Foxconn Bluetooth ATH AR3011 (BT3.0)	BH.21100.009
Foxconn	BT 3.0	Foxconn Bluetooth BRM 2046 BT3.0 (T60H928.33) f/w:861	BH.21100.008
Foxconn	BT 3.0	Foxconn Bluetooth BRM 2070 (T77H114.01) BT 3.0	BH.21100.010
Camera			
Chicony	1.3M	Chicony 1.3M CH9665SN (CNF9157)	AM.21400.067
Liteon	1.3M	Liteon 1.3M LT6AASP(09P2BF127)	AM.21400.070
Liteon	1.3M	Liteon 1.3M LT9665AL (09P2SF119)	AM.21400.069
Suyin	1.3M	Suyin 1.3M SY9665SN	AM.21400.068
Card Reader			
	2-in-1 card reader	2-in-1 card reader	CR.21500.030
CPU			
INTEL	CM900	CPU Intel Celeron 900 PGA 2.2G 1M 800 35W	KC.N0001.900
INTEL	CMT3500	CPU Intel Celeron T3500 PGA 2.1G 1M 800 35W	KC.35001.CMT
HDD			
HGST	N160GB5.4KS	HDD HGST 2.5" 5400rpm 160GB HTS545016B9A300 Panther B SATA LF F/W:C60F Disk imbalance criteria = 0.014g-cm	KH.16007.026
HGST	N250GB5.4KS	HDD HGST 2.5" 5400rpm 250GB HTS545025B9A300 Panther B SATA LF F/W:C60F Disk imbalance criteria = 0.014g-cm	KH.25007.016
HGST	N320GB5.4KS	HDD HGST 2.5" 5400rpm 320GB HTS545032B9A300 Panther B SATA LF F/W:C60F Disk imbalance criteria = 0.014g-cm	KH.32007.008
HGST	N500GB5.4KS	HDD HGST 2.5" 5400rpm 500GB HTS545050B9A300 Panther B SATA LF F/W:C60F Disk imbalance criteria = 0.014g-cm	KH.50007.010
SEAGATE	N160GB5.4KS	HDD SEAGATE 2.5" 5400rpm 160GB ST9160314AS,9HH13C-189, Seagate (new pcb) SATA 8MB LF F/W:0001SDM1	KH.16001.045
SEAGATE	N250GB5.4KS	HDD SEAGATE 2.5" 5400rpm 250GB ST9250315AS, 9HH132-189, Wyatt with new pcb SATA 8MB LF F/W:0001SDM1	KH.25001.019
SEAGATE	N320GB5.4KS	HDD SEAGATE 2.5" 5400rpm 320GB ST9320310AS,9RN132-188, Cameron 320G/P SATA 8MB LF F/W:0001SDM1	KH.32001.019
SEAGATE	N500GB5.4KS	HDD SEAGATE 2.5" 5400rpm 500GB ST9500325AS,9HH134-189, Wyatt with new pcb SATA 8MB LF F/W:0001SDM1	KH.50001.017
TOSHIBA	N160GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 160GB MK1665GSX, Capricorn BS, 320G/P SATA 8MB LF F/W:GJ002J	KH.16004.008

Brand	Type	Description	Acer Part No
TOSHIBA	N250GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 250GB MK2565GSX, Capricorn BS, 320G/P SATA 8MB LF F/W:GJ002J	KH.25004.005
TOSHIBA	N320GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 320GB Capricorn BS,MK3265GSX SATA 8MB LF F/W:GJ002J	KH.32004.004
TOSHIBA	N500GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 500GB MK5065GSX, Capricorn BS, 320G/P SATA 8MB LF F/W:GJ002J	KH.50004.002
TOSHIBA	N640GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 640GB MK6465GSX, Capricorn BS, 320G/P SATA 8MB LF F/W:GJ002J	KH.64004.001
WD	N160GB5.4KS	HDD WD 2.5" 5400rpm 160GB WD1600BEVT-22A23T0, WD, ML320S SATA 8MB LF F/W:01.01A01	KH.16008.027
WD	N250GB5.4KS	HDD WD 2.5" 5400rpm 250GB WD2500BEVT-22A23T0, WD, ML320S SATA 8MB LF F/W:01.01A01.	KH.25008.025
WD	N320GB5.4KS	HDD WD 2.5" 5400rpm 320GB WD3200BEVT-22A23T0, ML320S, WD SATA 8MB LF F/W:01.01A01	KH.32008.019
WD	N320GB5.4KS_4K	HDD WD 2.5" 5400rpm 320GB WD3200BPVT-22ZEST0, ML320S, 4K drive SATA 8MB LF F/W: 01.01A01	KH.32008.022
WD	N500GB5.4KS	HDD WD 2.5" 5400rpm 500GB WD5000BEVT-22A0RT0, ML320M, WD SATA 8MB LF F/W:01.01A01	KH.50008.017
WD	N640GB5.4KS	HDD WD 2.5" 5400rpm 640GB WD6400BEVT-22A0RT0, ML320 SATA 8MB LF F/W:01.01A01	KH.64008.004
WD	N750GB5.4KS	HDD WD 2.5" 5400rpm 750GB WD7500BPVT-22HXZT1, ML375M, 4K drive SATA 8MB LF F/W:01.01A01	KH.75008.009
Keyboard			
GATEWAY	AC7T_G10B	Keyboard GATEWAY AC7T_G10B AC7T Internal 17 Standard Black NONE Y2010 GTW_PB Legend Texture	KB.I170G.142
LAN			
Broadcom	BCM57780	Broadcom BCM57780	NI.22400.047
LCD			
AUO	NLED15.6WXGAG	LED LCD AUO 15.6"W WXGA Glare B156XW02 V2 LF 200nit 8ms 500:1 (power saving)	LK.15605.010
BOE	NLED15.6WXGAG	LED LCD BOE 15.6"W WXGA Glare HT156WXB-500 LF 220nit 8ms 500:1	LK.1560E.004
CMO	NLED15.6WXGAG	LED LCD CMO 15.6"W WXGA Glare N156B6-L0B LF 220nit 8ms 650:1	LK.1560D.010
CPT	NLED15.6WXGAG	LED LCD CPT 15.6"W WXGA Glare CLAA156WB11A LF 220nit 8ms 600:1	LK.1560A.004

Brand	Type	Description	Acer Part No
LPL	NLED15.6WXGAG	LED LCD LPL 15.6"W WXGA Glare LP156WH2-TLEA LF 220nit 16ms 500:1 (color engine)	LK.15608.011
SAMSUNG	NLED15.6WXGAG	LED LCD SAMSUNG 15.6"W WXGA Glare LTN156AT02-A04 LF 220nit 8ms 500:1	LK.15606.009
Memory			
NONE	SO1GBIII10	Memory NONE REG-ECC DDRIII 1066 1GB phantom p/n LF	KN.1GB00.003
NONE	SO2GBIII10	Memory NONE SO-DIMM DDRIII 1066 2GB dummy 1066 LF	KN.2GB00.001
NB Chipset			
INTEL	GL40(A1)	NB Chipset Intel CS GL40NB A1	KI.G4501.009
ODD			
HLDS	NSM8XS	ODD HLDS Super-Multi DRIVE 12.7mm Tray DL 8X GT32N (R5-2) LF W/O bezel SATA with Renesas solution + PCC LD (HF + Windows 7)	KU.0080D.055
PANASONIC	NSM8XS	ODD PANASONIC Super-Multi DRIVE 12.7mm Tray DL 8X UJ8A0 LF W/O bezel SATA (HF + Windows 7) Foxconn Yentai Factory	KU.00807.075
PLDS	NSM8XS	ODD PLDS Super-Multi DRIVE 12.7mm Tray DL 8X DS-8A5SH LF+HF W/O bezel SATA With TI + Rohm Solution (HF + Windows 7)	KU.0080F.014
SONY	NSM8XS	ODD SONY Super-Multi DRIVE 12.7mm Tray DL 8X AD-7585H LF W/O bezel SATA (HF + Windows 7)	KU.0080E.027
TOSHIBA	NSM8XS	ODD TOSHIBA Super-Multi DRIVE 12.7mm Tray DL 8X TS-L633F LF W/O bezel SATA (HF + Windows 7)	KU.00801.040
SB Chipset			
INTEL	ICH9M	SB Chipset Intel CS ICH9M	KI.80101.030
Software			
	NIS	Antivirus application NIS	SR.23900.002
VGA Chip			
None	UMA	UMA (Intel)	KI.23200.038
WiFi Antenna			
WNC	PIFA	PIFA	LZ.23500.006
Wireless LAN			
Foxconn	3rd WiFi 2x2 BGN	Foxconn Wireless LAN Atheros HB93 2x2 BGN (HM)	NI.23600.062
Foxconn	3rd WiFi 2x2 BGN	Foxconn Wireless LAN Atheros HB97 2x2 BGN (HM)	NI.23600.072
Liteon	3rd WiFi 2x2 BGN	Liteon Wireless LAN Atheris HB93 2x2 BGN (HM) WN6602AH	NI.23600.063
Liteon	3rd WiFi 2x2 BGN	Liteon Wireless LAN Atheris HB97 2x2 BGN (HM) WN6603AH	NI.23600.073

Brand	Type	Description	Acer Part No
Liteon	3rd WiFi 2x2 BGN	Liteon Wireless LAN Broadcom 43225 2x2 BGN	NI.23600.081

Online Support Information

This section describes online technical support services available to help you repair your Acer Systems.

If you are a distributor, dealer, ASP or TPM, please refer your technical queries to your local Acer branch office. Acer Branch Offices and Regional Business Units may access our website. However some information sources will require a user i.d. and password. These can be obtained directly from Acer CSD Taiwan.

Acer's Website offers you convenient and valuable support resources whenever you need them.

In the Technical Information section you can download information on all of Acer's Notebook, Desktop and Server models including:

- Service guides for all models
- Bios updates
- Software utilities
- Spare parts lists
- TABs (Technical Announcement Bulletin)

For these purposes, we have included an Acrobat File to facilitate the problem-free downloading of our technical material.

Also contained on this website are:

- Detailed information on Acer's International Traveler's Warranty (ITW)
- Returned material authorization procedures
- An overview of all the support services we offer, accompanied by a list of telephone, fax and email contacts for all your technical queries.

We are always looking for ways to optimize and improve our services, so if you have any suggestions or comments, please do not hesitate to communicate these to us.

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